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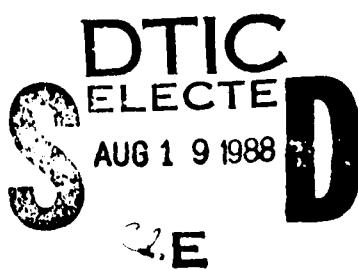
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Micro-Mail User's Guide

H. R. Hall
B. Bueche



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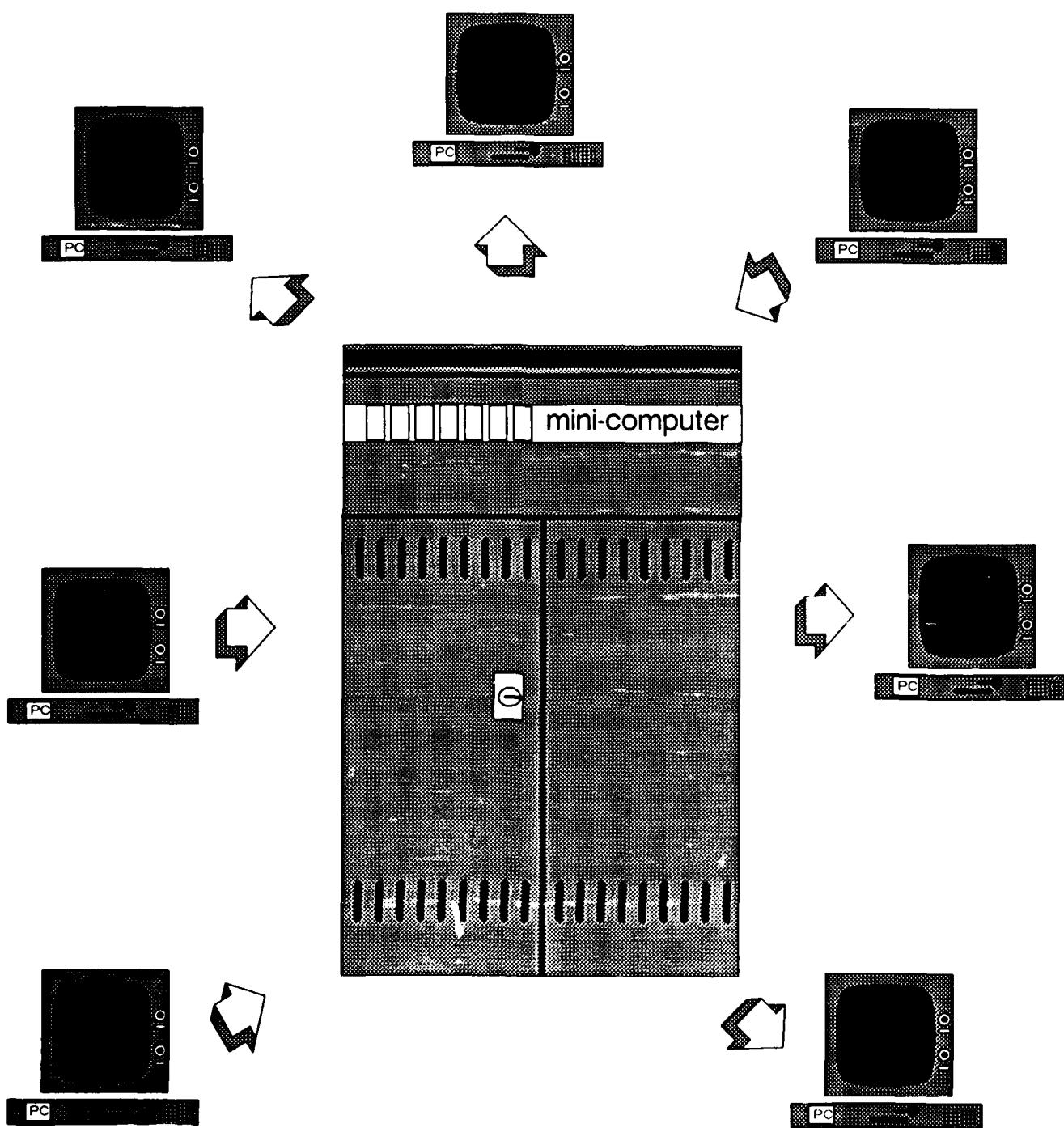
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Micro-Mail User's Guide



Micro-Mail User's Guide

A manual covering the installation, configuration and use
of **umail**, a personal computer electronic mail
utility developed at the

Naval Ocean Systems Center

San Diego, California

Sponsored by
Office Automation, Code 9102

Version 1.00

June, 1988

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How To Use This Manual

§ Synopsis

Chapter 1 discusses the nature of electronic mail in general, and Micro-Mail (or **umail**) in particular. If electronic mail concepts are new to you, read chapter 1.

Chapter 2 is an overview of **umail**'s different modes. If you have never used **umail** before, read chapter 2.

Chapter 3 contains a detailed "How To" cookbook for using **umail** written in "cookbook" format. If you have a PC on which **umail** is installed and configured, follow the instructions detailed in chapter 3.

Chapter 4 contains a description of the entire **umail** command set. Every command is described in detail. Use chapter 4 as a reference to the **umail** command set, along with the **umail manual** pages (contained in appendix 4).

Chapter 5 contains instructions for installing **umail**. Read this chapter if you want to install **umail**.

Chapter 6 contains a description of the Micro-Mail configuration file. Read this if you wish to customize **umail**.

Appendix 1 presents the MS-DOS commands you must know in order to manage your mail effectively within the MS-DOS environment. Read this if MS-DOS is new to you.

Appendix 2 contains a tabular summary of the **umail** command set. Use it as a quick reference guide.

Appendix 3 contains a list of **umail** error messages and their meanings.

Appendix 4 is the **umail manual** pages containing useful technical reference material. Read it for detailed information on all aspects of Micro-Mail.

§ Key to typographic conventions.

Typeface	Used For	Example
Bold 12 point type:	section titles	§Synopsis
Classic 10 point type: Bold 10 point type: (Arrow signifies ENTER key)	text, commands typed to the computer by the user program names variable names	Chapter 1 discusses... umail ↵ cd \bin ↵ uminst mailhome
<i>Italic 10 point type:</i>	<i>host names</i> <i>userids</i> <i>filenames</i> <i>directory path names</i> <i>figure labels</i>	<i>cod</i> <i>bill</i> <i>config.sys</i> <i>c:\mail\</i> <i>fig. 1</i>
Typewriter 10 point type:	text typed to the screen by the computer	C:\> C:\bin>
CAPITALIZED CLASSIC 10 POINT TYPE	ACRONYMS, OPERATING SYSTEM NAMES	GPCC UNIX

Chapter 1: Introduction

§Synopsis

Chapter 1 is an introductory discussion of electronic mail in general, and PC-based mail in particular. Two NOSC electronic mail utilities, **msg** (UNIX-based) and **umail** (PC-based) are contrasted. **umail** is an electronic mail utility that transfers mail files between mini-computers running the UNIX operating system and personal computers running the MS-DOS operating system. You must have a valid *userid* and password on a mini-computer in order to send and receive electronic mail. (See section §5.1 for a list of valid mini-computers.)

§1.0 How electronic mail works

In principle, electronic mail is simply the transmission of text from one computer user to another. The sender and the recipient of an electronic mail message can be on the same computer or on different computers. The computers can be geographically close or distant. When the users are on the same computer, the path an electronic message takes is through the computer. When the users are on different computers, the message path is often over physical cables connecting the computers together. If the computers are geographically distant, the path may include microwave and satellite links. Regardless of where the computers are located, software on the sender's computer transmits the message to software on the recipient's computer. The message ultimately ends up in the recipient's mailbox file.

Electronic mail has been around for nearly two decades. Throughout this period, electronic mail functioned in the mini (VAXes) and mainframe (IBM) computer environments. Around 1980, the desktop personal computer became available. Electronic mail, which until then was confined to minis and mainframes, gradually became available to single-user personal computers. Using a PC-based mail system, users can now transmit and receive electronic mail without having to log into a mini or a mainframe computer overtly.

§1.1 What umail does

The simplest PC-based electronic mail service is the transfer of a mail file from mini to PC, or from PC to mini. (A mail file is a file that contains electronic mail messages.) At NOSC, the **kermit** and **mcp** programs support mini-to-micro and micro-to-mini file transfers. Next in sophistication is an automated, or software controlled, mail file transfer system. A program running on the PC communicates with a program running on the mini and together they transmit files back and forth. **umail** is the NOSC product in this category.

When a user runs **umail**, a connection is made over the General Communications Backbone (GCB) between the PC and a UNIX mail server (like *castor*). A program running on the mini checks for new mail messages, and if it detects any, transmits them to the waiting **umail** program running on the PC. **umail** then deposits the mail messages into a directory on the PC's hard disk. Similarly, **umail** transmits messages composed on the PC to the mini-computer (*figure 1*).

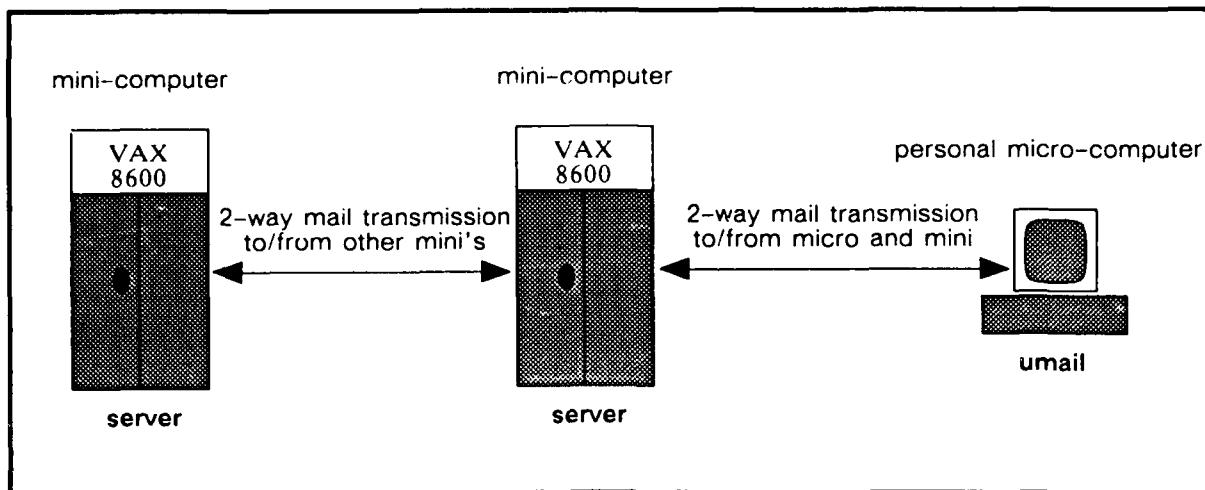


Figure 1. Two-way mail transmission.

§1.2 A comparison of umail and msg

umail performs the same tasks under MS-DOS that **msg** does under UNIX. That is, it checks for pending mail, it transmits and forwards mail, it deletes messages, and so on. Both mail utilities enable a person to compose a message with an editor and then transmit it. Both utilities are controlled by configuration file parameters. Both provide help facilities.

msg features a much larger command set than does **umail**. **umail**, on the other hand, has some PC-specific extensions (enhancements). On the IBM-compatible PC, **umail** supports user-defined function keys and screen background and border colors (for color PC's). The mail handling services and command sets of the two utilities, however, are essentially the same. Appendix 2 contains a summary of the **umail** command set.

§1.3 Obtaining a GPCC mini-computer account

Contact either the Topsid or Bayside Computer Resource Center (CRC) by phone or in person, request an account, and tell them you want to use Micro-Mail. The Topsid CRC is in Building 33, room 2614, x32268. The Bayside CRC is in the south end of Building 204, and the phone number is x35457. In Hawaii, call x5240.

§1.4 Obtaining help

Contact the nearest Computer Resource Center (as in section §1.3).

Chapter 2: Using umail - Overview

§Synopsis

Chapter 2 contains general information about what **umail** does, how it is invoked, its command structure, and its various menu modes.

§2.0 Menus

umail provides two screen menus. The *headers* menu is the text in the center of the screen, and the *commands* menu makes up the two lines at the top of the screen.

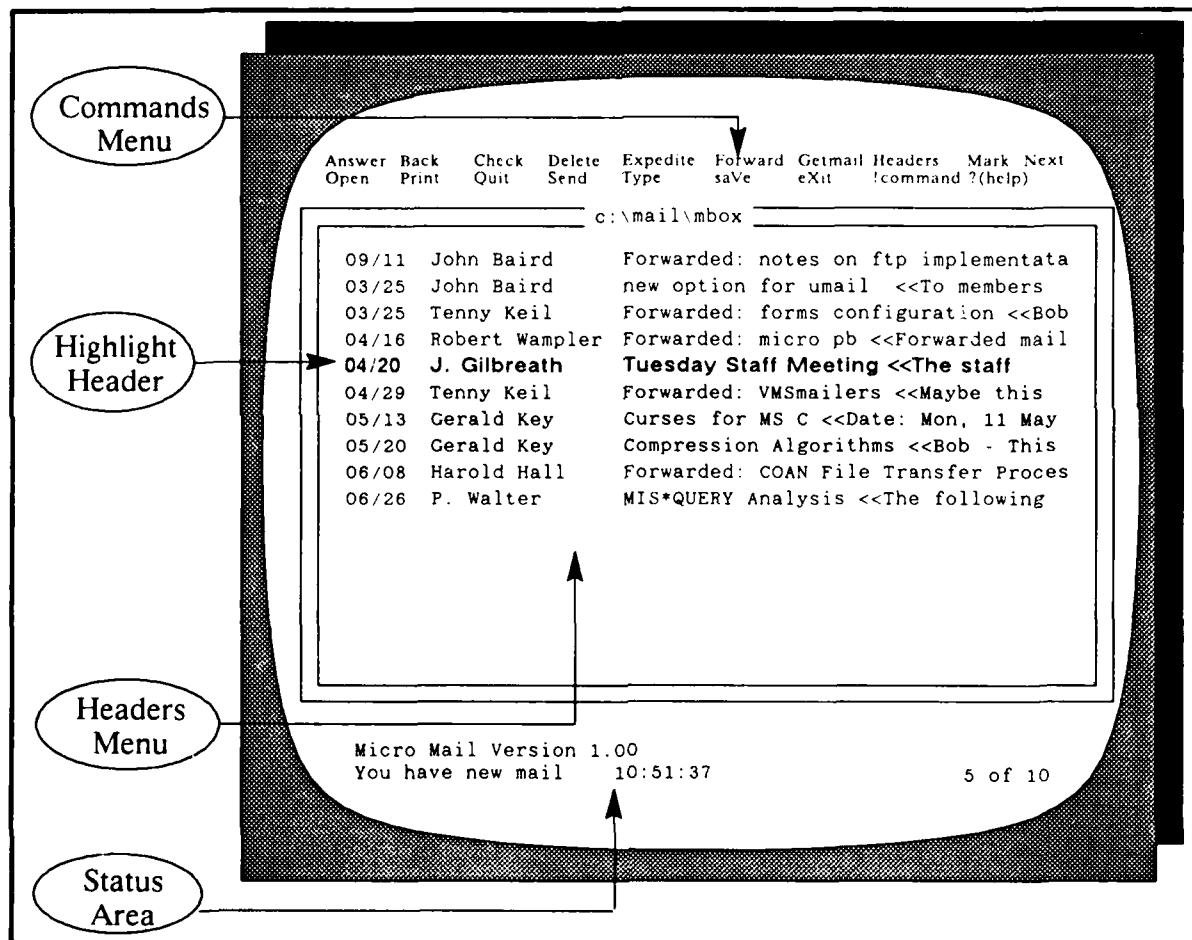


Figure 2. Micro-mail headers screen.

Each header contains the date the message was sent, the name of the sender, and as much of the subject and content as will fit on one line (*figure 2*). Pressing the "down arrow" key scrolls the highlight down to the next message header. Pressing the "up arrow" key scrolls the highlight up to the previous message header.

Commands can be executed by typing the upper-case letter that appears within the command name. For example, to execute the **Delete** command, press **d**. To execute the **Forward** command, press **f**. To exit **umail**, updating the mailbox file, press the **q** (**Quit**) key.

§2.1 Command mode

You can execute any valid **umail** command by typing its single-character abbreviation. For example, press the **t** key to **Type** the contents of the highlighted message. Or, press the **f** key to **Forward** the highlighted message. Command mode is always active, which means that you can execute commands at any time while running **umail**. Either upper or lower-case letters may be used for commands. See appendix 2 for a list of command abbreviations.

When you execute the command **Type**, the contents of the highlighted message are displayed on the screen. The **n** key displays the **Next** message, while the **b** (**Back**) key displays the previous message. The **h** key restores the **Headers** display. Typing two question marks **(??)** displays the **help** screen. Pressing any key exits the **help** screen.

These commands apply to the message currently highlighted: **a** (**Answer**), **d** (**Delete**), **f** (**Forward**), **m** (**Mark**), **p** (**Print**), **t** (**Type**), and **v** (**saVe**).

§2.2 External editors

In order to compose an outgoing message, you must use an editor external to **umail**. This allows people to use their own favorite editors. If you do not have an editor, you may want to use the Easy Editor (**ee**), provided free of charge with **umail**.

The mail system through which messages are delivered limits the contents of messages to ASCII characters; in fact, many ASCII "Control Characters" are not permitted. Since most PC editors use non-ASCII and control characters to accomplish text formatting such as underlining, emboldening, centering, and indentation, such features will be lost from the message before it is delivered. Thus it is best not to include special formatting when composing messages.

In addition to the loss of formatting, other problems may occur with particular editors. Instructions for some standard editors are listed below. If you have trouble with your editor, contact the Computer Resource Center for help.

1. Easy Editor: Use the editor as provided.
2. WordStar: Use in either document or nondocument mode.
3. WordPerfect: Save message file using "Test In/Out" key; answer the resulting menu request with '1' (save in DOS Text File Format); replace the existing file when asked; and immediately exit from WordPerfect WITHOUT saving the file again.
4. MS Word: The message must be "printed" to a file, rather than saved normally. Check with the CRC for specific instructions.

§2.3 Use of a mouse

If your PC is equipped with a mouse, you may want to use it to activate certain **umail** functions; for example, you could use the mouse to move the highlight, instead of using the up and down arrows. A description of configuring a mouse to activate this or other functions is beyond the scope of this manual. Contact the CRC for more information.

§2.4 Status lines

There are two status lines at the bottom of the screen (*figure 2*). In this area, **umail** writes status messages and prompts for user input. For example, when you execute **Getmail** the first time in a session, **umail** prompts for your mini-computer password.

§2.5 Dual mailboxes

If you continue to read mail when logged into your mailhome mini-computer, in addition to using Micro-Mail, you may have a problem remembering where particular messages reside. This is only one aspect of what is called the "dual mailbox" problem. The easiest way to avoid the problem is to read and handle ALL of your mail on your PC, if you choose to use Micro-Mail at all.

The *umailrc* file attribute **serverbak:** (chapter 6), which causes a copy of all mail downloaded to the PC to be retained on the mailhome mini-computer, provides a means for limited management of the dual mailbox problem.

Until the dual mailbox problem has a better solution, users are encouraged to avoid the problem if possible. However, for those who cannot avoid it completely, some cautionary advice is necessary:

1. When you **Getmail** from the mini-computer you are getting incoming mail from your delivery file, not your normal mailbox file (*mbox*).
2. You should NEVER **Getmail** with **umail** at the same time that you are using an active mail-reading program, such as **mail** or **msg**, on your mailhome mini-computer.
3. An easy way to return downloaded mail back to your mailhome is by forwarding it to yourself.
4. In order to use mail retained on your mailhome with the **serverbak:** attribute, name *mbox* as the retention file; you can then selectively delete messages on the PC and the mini-computer to achieve the split of incoming mail which you need.
5. Messages can be examined on the mailhome mini-computer, and left for downloading to the PC by exiting from **msg** or **mail** with the **x** command.

§2.6 T-Box communications

umail makes a connection to a mini-computer over the GCB. Occasionally the link between the T-Box connected to your PC and the T-Box connected to the mini-computer breaks down and the connect attempt will fail. **umail** will display a message indicating that the remote host is unavailable. If the problem persists after one or two repeated requests, check to see if your mailhome mini-computer is up and running. If the connection still fails, call the Communications group at x32270 or the Computer Resource Center at x32268 (Topside), x35457 (Bayside), or x5240 (HI). You will be asked for your T-Box unit number, which is printed on the front of the box.

When **umail** makes a connection through the T-Box, it sets the LOCATION to the value given in the *umailrc* file (chapter 6). If you have a current session on the T-Box, such as a login to a mini-computer, this session will be interrupted and terminated. Even if the current session is connected through the other port on the T-Box, it will be terminated if it is using a different LOCATION, since the LOCATION will be reset for both T-Box ports. For these reasons, the following T-Box usage rules should be observed by **umail** users: (1) Log out of the mini-computer before using **umail**, or (2) for **umail**, use a different PC com port and a different T-Box than the ones you use to log into a mini-computer, and (3) do not share your **umail** T-Box with other GCB users.

§2.7 Telephone access

If your PC is equipped with a Hayes-compatible modem, you can use **umail** over a telephone line. The only change required in your Micro-Mail setup is to correct the baud rate in the *umailrc* file (chapter 6). Then, with a communications program such as **terminal** running on your PC, dial the access number you normally use; when the connection is established, return control to the MS-DOS operating system. (Press the F10 key if you are using **terminal**.) After finishing the **umail** session, hang up the telephone.

Unfortunately, because of limitations in the TAC software, **umail** cannot presently be accessed successfully through a TAC.

Chapter 3: Using umail - Cookbook

§Synopsis

Chapter 3 contains detailed step-by-step instructions for running **umail**. Only the most common **umail** commands are covered.

§3.0 Getting started.

To run **umail** on a PC you need

1. A valid *userid* on a mini-computer with appropriate server software.
(See chapter 5, section §5.1.)
2. An IBM-compatible personal computer with a hard disk (and a printer if you want a hardcopy). The PC must run the MS-DOS operating system and be connected to the GCB via a T-Box.
(See chapter 5, section §5.0.)
3. All of the files from a **umail** distribution installed on the hard disk.
(See chapter 5, sections §5.2 and §5.3.)
4. A properly configured *umailrc* file.
(See chapter 5, sections §5.2 and §5.3.)
5. Properly configured *autoexec.bat* and *config.sys* PC files.
(See chapter 5, sections §5.2 and §5.3.)

Items 3, 4, and 5 above are accomplished using the **umail** installation program described in chapter 5.

§3.1 Composing and sending new mail.

- ♦ 1. At the MS-DOS prompt type

C:\> **umail** ↵

- ♦ 2. After **umail** displays the header page, press the **s** (Send) key to invoke the Send command.
- ♦ 3. Address the message to the recipient (yourself or someone you know, for instance), by typing the recipient's *userid*.

To: **userid** ↵

- ◆ 4. Make the Subject: line something like "test".

Subject: test

- ◆ 5. Bypass the Cc: (carbon copy) line by pressing the **ENTER** key.

Cc:

- ◆ 6. Compose a message using the editor, then exit the editor.

- ◆ 7. Type the letter s or press the **ENTER** key at the disposition prompt:

A(bort, E(dit, S(end now, send L(ater (s)?

- ◆ 8. If you have not yet entered your mini-computer password during this session, enter it when **umail** requests it.

Password: -----

- ◆ 9. **umail** will indicate that the message is being sent, and then that it was sent successfully.

Sending... (*Flashing*)
Message sent

§3.2 Check for new mail.

- ◆ 1. Press the c (Check) key. The following message appears at the bottom of the screen:

Checking for new mail... (*Flashing*)

- ◆ 2. **umail** checks for the presence of new mail on the mini-computer. You will get one of the following two messages at the bottom of the screen:

You have new mail 09:52:39
No new mail 09:54:27

Note: It is not necessary to check for new mail before getting new mail.

§3.3 Get a copy of the new mail.

- ♦ 1. Type **g** for **Getmail**. If you have not yet entered your mini-computer password during this session, enter it when **umail** requests it:

 Password: ----- ↵

- ♦ 2. **umail** will then proceed to download any pending mail. Header information for each message received will be displayed in the message area at the bottom of the screen. You will also see the following message:

 Getting new mail. Hit ESC to breakout.

§3.4 Read the new mail.

- ♦ 1. To read the new mail, be sure the correct new message header is highlighted, or move the highlight to it using the up and/or down arrow keys. Then press **t** to **Type** this message to the screen. The new message will be displayed on the screen (up to 24 lines). If the message fills the screen, press **PgDn** or the **Spacebar** to display the next 24 lines.

- ♦ 2. To read the **Next** message press **n**.

§3.5 Compose an answer to a message.

- ♦ 1. Press **h** to return to the **Headers** menu. Scroll the highlight to the message to be **Answered** and press **a**. If you wish to answer the message you are currently reading, you may press **a** without returning to the **headers** menu.
- ♦ 2. The editor will be invoked. Compose your answer and exit the editor. Continue as in section §3.1.

§3.6 Forward an existing message to yourself.

- ♦ 1. In the **headers** menu, move the highlight to any message. Press **f** (**Forward**) and specify your **userid** as the recipient.

§3.7 Save a particular message to a file.

- ♦ 1. In the **headers** menu, move the highlight to any message. Press **v** and provide a filename for **saving** the message:

 Name of file to save message to -->c:\mail\savethis ↵

Note that the (default) mail directory is given with the prompt, indicating that the saved file will be located there.

§3.8 Quit umail.

- ♦ 1. Press **q** (**Quit**) to exit **umail** and update the mailbox. Optionally, press **x** to **eXit** without updating the mailbox.

Chapter 4: Using **umail** - A Comprehensive Listing

§Synopsis

Chapter 4 provides an explanation of the entire **umail** command set. Step-by-step instructions are not given.

§4.0 Getting Started

At the MS-DOS prompt type

C:\> **umail** ↵

The screen is painted in the colors specified in the *umailrc* file. If you specified **startcheck:** in the *umailrc* file, a check for new mail will occur when **umail** is first invoked. See chapter 6 and appendix 4 for information about the *umailrc* file.

Exercise the up and down arrow keys. Observe the motion of the highlight. You can execute a command by typing its command abbreviation (**c** for **Check**). The *commands* menu at the top of the screen displays the commands with the abbreviations indicated by the upper-case letters.

Generally, commands may be invoked from either the *headers* menu or the *message display* page. For a number of the commands, the message "Hit ESC to abort command." is displayed on the status line. Whenever this message appears, the current command can be aborted (i.e., interrupted and terminated) by pressing the **ESCAPE** key.

§4.1 Check: Checking for new mail

Press **c** or **C** to invoke the **Check** function; if you have new mail, the system will notify you.

§4.2 Getmail: Getting mail

If **Check** indicates that you have new mail, press **g** or **G** for **Getmail**. If you have not previously entered your password this session, **umail** asks for your password so it can access the mini-computer and download any new mail that you have pending. Your password is required to ensure mail system security. The current mailbox will be updated when new mail is downloaded. (See section §4.17, **Quit**.)

§4.3 Type: Typing mail

Type switches to the message display and writes the contents of the current message to the screen. **Type** is invoked by pressing **t**. Pressing **h** or **H** restores the **Headers** menu. If the message fills the screen, press **PgDn** or the **Spacebar** to display the next 24 lines, etc.

§4.4 Next: Reading next message

Execute the command **Next** to display the next message by pressing **n** or **N**.

§4.5 Back: Reading previous message

Execute the **Back** command to display the previous message by pressing **b** or **B**.

§4.6 Headers: Restoring the headers menu

After a message is displayed, you can restore the *headers* menu with the **Headers** command (**h** or **H**).

§4.7 Send: Creating a new message

When you execute **Send** by pressing **s** or **S**, you are prompted for addressees' *userids* (To:), the subject (Subject:), and *userids* for carbon copies (Cc:). The editor specified in *umailrc* (Chapter 6) is invoked. Compose your message in the editor following the "Text:" header line. You may edit the header lines if you choose, as long as you maintain the proper format for each; however, do NOT edit the "Text:" header. If you cannot get all of the *userids* on one line, you may continue the header when in an editor, on one or more lines immediately following it; simply begin each continuation line with a tab character. If you want to send a blind copy to someone, enter the blind copy header line (Bcc:) after the Cc: line, and then enter the *userid(s)* on it. When you finish editing the message, the disposition prompt is displayed:

A(bort E(dit, S(end now, send L(ater (s)?

Make your selection as appropriate. Before the message is sent, you will be asked for your password, unless you have entered it previously during this session. See Section §4.10, **Expedite**, if you select "L(ater."

§4.8 Answer: Answering received mail

Answer is invoked by pressing **a** or **A**. **a** generates a reply to the currently highlighted message, including all Cc:'s, and **A** answers the current message without including Cc:'s. The answer is composed using the editor specified in the *umailrc* file (chapter 6). See section §4.7, **Send**, for details. The message being answered is placed in a file named *msg* which can be accessed by the editor.

§4.9 Forward: Forwarding mail to another user

Forward is invoked by pressing **f** or **F**. It transmits a copy of a message to an addressee. The message can be edited before forwarding. Simply select "E(dit" at the disposition prompt:

A(bort, E(dit, S(end now, send L(ater (s)? e ↵

After exiting the editor, send the message following the instructions from section §4.7, **Send**.

One way of using **Forward** is to compose new mail by using some of the text in an existing message. Simply forward the message to the intended recipient, then edit extensively before sending it.

§4.10 Expedite: Sending queued mail

After a message is prepared for sending, whether by **Answer**, **Forward**, or **Send**, the disposition prompt provides the option to "send L)ater". If this option is chosen, the message is "queued" for later sending. Outgoing messages which cannot be sent for any reason, such as a communications problem, will also be queued for later sending.

Such queued messages can then be sent with the **Expedite** command (**E** or **e**). The first message in the queue will be displayed, along with the following prompt:

```
send A(ll), D(elete), E(dit), S(end), N(ext), P(revious), Q(uit (s)?
```

This prompt provides the options to send all queued mail, to delete, edit, or send the message displayed, to move to the next or previous message in the queue (if any), or to quit the **Expedite** command.

If there are remaining queued messages when you exit **umail** with the **Quit** command, you will be asked whether to send them.

Queued messages may also be sent periodically by setting the **autosend:** attribute in the *umailrc* file (chapter 6). In this case, any queued messages will be sent automatically without user intervention.

§4.11 Delete: Removing a message from the mailbox file

Delete marks a message for deletion. Actual deletion occurs after a **Quit** command or when you receive new mail with the **Getmail** command. (Caution: If you have the **autoget:** parameter in your *umailrc* file, messages marked for deletion will be deleted when new mail is downloaded. See chapter 6.) The **Delete** command acts as a toggle, so it can also be used to unmark a message mistakenly marked for deletion.

§4.12 Mark: Marking messages

Mark (**m** or **M**) is used to build a list of messages by marking each message to be included in the list. The list is used with either the **saVe** or **Print** command.

§4.13 saVe: Saving mail to a mailbox file

saVe appends the current message or all marked messages to a mailbox file. (The file will be created if it doesn't already exist.) In the *headers* menu move the highlight to any message and execute **saVe** by pressing **v** or **V**. You will be prompted for the name of the file:

```
Name of file to save message to -->c:\mail\
```

Note that your mailbox directory is displayed, to remind you that the file will exist in that directory by default. You may change this by editing the directory part of the prompt with the **Backspace** key and/or by entering another directory name.

If you are saving marked messages(s), another prompt will appear before the filename prompt:

Save C(urrent message, M(arked messages, marked then D(elete (m)?

You may select the current message only, or all marked messages to be saved. If you select "marked then D(elete," all marked messages will be saved and marked for deletion. When you exit **umail** with the **q** command they will be deleted. This effectively accomplishes a "Move" of the message(s). After you have indicated your choice on this prompt, the filename prompt is displayed, and the function continues as before.

§4.14 l: Sending a message to the printer

Press **p** or **P** to send the current message (or all marked messages) to the printer. You will be asked whether to print just the current message or, if any messages are marked, all marked messages. **Print** uses the MS-DOS **print** program as the default print command; it must be present in the search path.

Selection of an alternate printer is possible with the **printer:** attribute in the **umailrc** file (Chapter 6).

§4.15 O: Opening another mailbox file

The **Open** (**o** or **O**) command opens another mailbox file. (The default file is **mbox**.) You are prompted for the filename and can open more than one mailbox file at a time, effectively "stacking" the opened files. The **eXit** and **Quit** commands close the files in the reverse order in which they were opened. Opened files are assumed to reside in the **maildir:** directory.

§4.16 !: Executing an MS-DOS command

!command followed by the **ENTER** key causes the given MS-DOS command (like **dir** or **type**) to be executed. The **!** can be used at the prompt when sending a message (To:, Subject:, Cc:). It is particularly useful at this point to access the electronic phonebook command, **pb**.

You can temporarily exit **umail** to the MS-DOS operating system by using the **!** immediately followed by the **ENTER** key. You will see the normal MS-DOS prompt, and can invoke a sequence of MS-DOS commands. (But DO NOT invoke **umail** a second time.) To return to **umail**, type **exit** and press the **ENTER** key and then follow that by pressing any key.

§4.17 Q: Leaving umail and updating the mailbox

Quit (**q** or **Q**) leaves **umail**, returning control to MS-DOS. The **Expedite** command is invoked if there are queued messages. Deleted messages are removed, and the mailbox file is updated.

§4.18 eXit: Leaving umail without updating the mailbox

eXit leaves **umail**, returning control to MS-DOS. The **Expedite** command is not invoked, deleted messages are not removed, and the mailbox file is not updated.

§4.19 "?": Getting help

Help is available in **umail**. Press the question mark key (?) to invoke **help**. When the key is pressed once, you will be asked to press the command key about which you need help. Pressing the ? a second time will give help for **help**, which consists of a help list for all valid commands.

§4.20 "/": Searching through a message

It is possible to search for character strings in the current message. Enter the search command (/) followed by the character string, and then press the **ENTER** key. The message will be displayed with the first line in which the character string exists at the top of the screen.

§4.21 ".": Continuing a search

After the search command has been invoked once, searches for the same character string can be repeatedly invoked by pressing the period key (.). (This key is also called the **continue-search** command.)

§4.22 Other keys

Though not strictly commands, other keys are available for changing the display, moving the highlight, etc. See appendix 2.

Chapter 5: Installation and Configuration

§Synopsis

Chapter 5 contains instructions for installing and configuring **umail**. Introductory material is given in sections §5.0 and §5.1. Automated installation is described in section §5.2. Details of the installation and configuration procedure are given in section §5.3. Related topics are discussed in sections §5.4 and §5.5.

§5.0 Introduction

In order to run **umail** you must have the following hardware:

1. an IBM-compatible personal computer with at least 512K RAM
2. a hard disk drive
3. a T-Box that connects your PC to the GCB.

You must also have the following software:

1. the MS-DOS operating system
2. the **umail** software distribution installed onto the PC's hard disk.

To install Micro-Mail means to get the distribution software for your PC, and then to run the installation program **uminst**. The software can be obtained either on a floppy diskette, or by downloading it from the *anchovy* Bulletin Board System over the GCB (which may take up to 45 minutes elapsed time). For further information, contact the Computer Resource Center (CRC), x35457 (Bayside), x32268 (Topside), or x5240 (Hawaii).

The installation program **uminst** not only copies the necessary Micro-Mail system files, but also individually configures the system and your PC to make Micro-Mail work correctly for you. This is accomplished as the program asks you a series of questions and configures the system based on the answers you give. See section §5.2 for further information.

After the installation is complete, it must be tested. If the installation procedures were followed exactly, **umail** should successfully download pending mail from a UNIX mini-computer to the PC. You should also be able to send new messages on the PC to other mini-computer users (*figure 3*).

After successfully testing the installation, you may want to edit the *umailrc* file to change various optional operating features of Micro-Mail. This may be done right after the installation or at some later time, after you have become more familiar with Micro-Mail. All of the available attributes are listed in chapter 6, along with instructions on changing them.

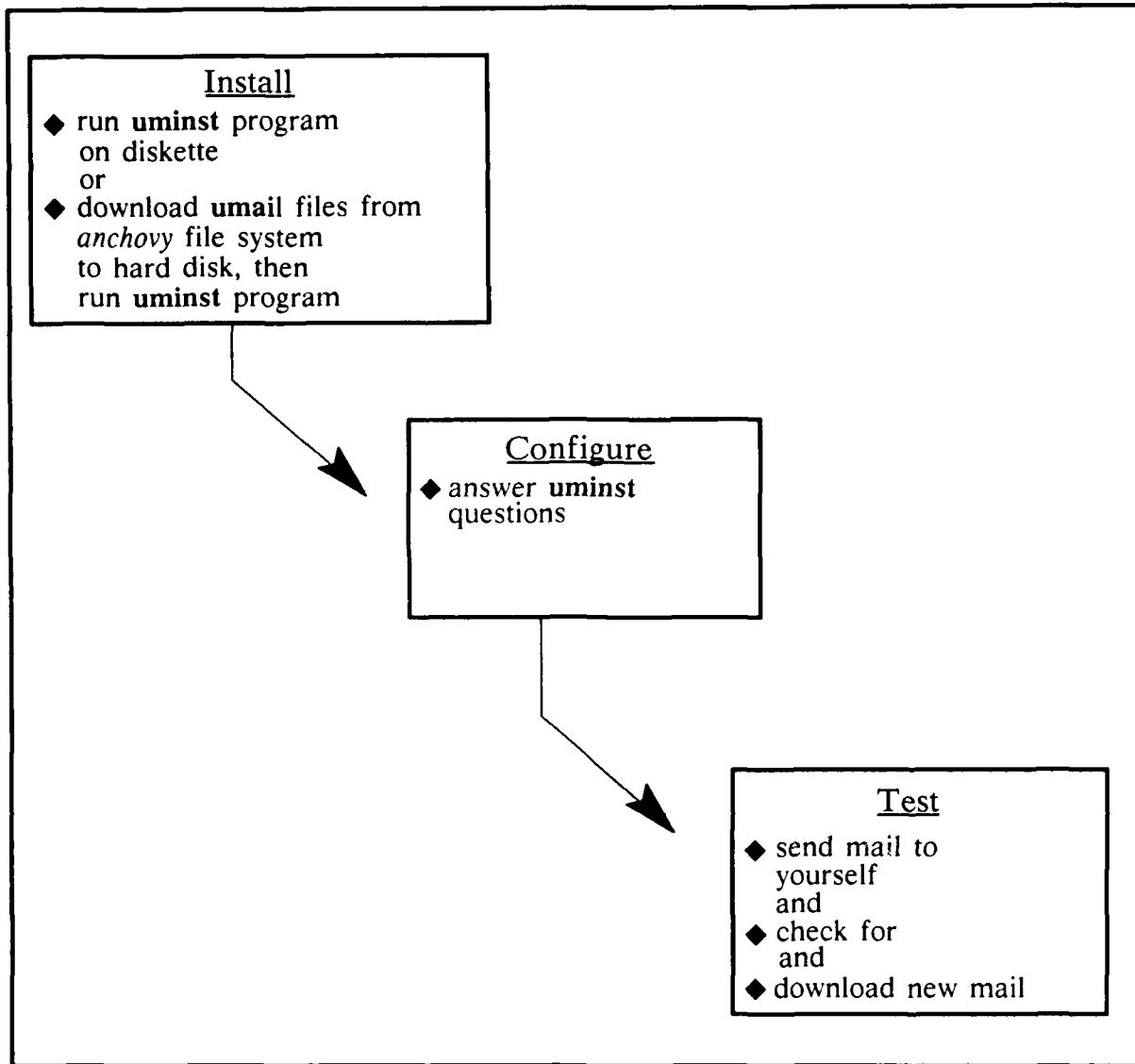


Figure 3. Installation and configuration steps.

§5.1 User Requirements

In order to use **umail**, you must be a registered user and have your mailhome on one of the following mini-computers: *bugs*, *cod*, *gandalf*, *grunion*, *guppy*, *halibut*, *humu*, *manta*, *marlin*, *tetra*, *thx1138*, or *trout*. This list will expand in the future. If you are not a registered user, see section §1.3.

§5.2 Automated Installation

The program **uminst**, available on the distribution diskette, provides essentially automatic installation and configuration for the **umail** system. It installs all modules (creating required directories if they don't exist), modifies the *autoexec.bat* and *config.sys* files, builds your individual configuration file *umailrc* based on answers to your questions, and checks and sets your T-Box parameters. To make the installation, turn on your PC, place the distribution diskette in floppy drive A:, and invoke the installation program:

```
C:\> a:uminst ↵
```

Answer all of the questions, and reboot your PC when instructed to do so. In many cases you will be able to select the "default" answers to the questions, but you will need to know the following things before starting the installation program:

1. Your PC login drive (e.g., C:)
2. Your *userid* on your mailhome mini-computer
3. The name of your mailhome mini-computer (e.g., *cod*)
4. The name of the editor you want to use with **umail** (e.g., *ee*)
5. The name of the directory you have selected for the **umail** programs (e.g., *c:\bin*)
6. The name of the directory you have selected for your mailbox (e.g., *c:\mail*)

Simply by running the installation program, you can create a convenient and workable mail system; sophisticated users may want to make configuration modifications by editing the *umailrc* file. See chapter 6 for details.

If you downloaded the software from *anchovy* to a directory on your hard disk, simply invoke the installation program from that directory, and follow the instructions above for the floppy diskette installation.

```
C:\> uminst ↵
```

§5.3 Installation and Configuration Details (Advanced Topic)

The **umail** system consists of five modules, *pop2.exe*, *slipdev.sys*, *sltbox.exe*, *smtp.exe*, and *umail.exe*. In addition, an individual configuration file *umailrc* and some type of text editor are required, and an installation program *uminst.exe* is available. The files, together with the simple text editor Easy Editor, *ee.exe*, and its defining file, *ee.def*, are provided in the distribution. Your favorite text editor (e.g., *wp*, *ws*) may be used instead of Easy Editor. Two descriptive text files, *readme.um* and *using.um*, are also included in the distribution. The former briefly covers material similar to that in this chapter, and the latter provides user information for the **umail** system.

The installation program performs the following functions automatically, in response to your input: The configuration file and all of the executable files are installed in a PATH directory (e.g., *c:\bin\umail* or *c:\bin*). In addition, a directory must be created to hold the mailbox and associated files. This directory should be used only for that purpose; *c:\mail* is the suggested, default name.

The file *slipdev.sys* is installed in the root directory. The *config.sys* file must contain a device entry referencing this file:

```
device=c:\slipdev.sys
```

The file *slipdev.sys* may be installed in a different directory, if desired; the *config.sys* entry must be changed accordingly.

In order to avoid "losing" available micro-computer memory when using *umail*, a printer initialization entry is added to the *autoexec.bat* file:

```
print < dummyprt.tmp
```

The file *dummyprt.tmp* is also created. The contents of this file are unimportant; any short text preceded by a blank line will do.

The path variable in the *autoexec.bat* file must be carefully constructed. In particular, use of the forward slash (/) can cause problems when starting programs from within other programs, which occurs with some commands in *umail*. For this reason, only back slashes (\) are used in the definition of the path variable.

Some of the T-Box parameters must be checked and set. These are **COMMAND (BREAK)**, **PARITY (NONE)**, **STOPS (1)**, and **LOCATION**. The correct settings are given in parentheses, except for **LOCATION**; it is set dynamically from information in the configuration file. See section §2.6 for important information about using *umail* with a T-Box.

Before the system will work, the micro-computer must be rebooted, as indicated by the installation program message.

§5.4 Multiple Users on a Single Machine

When someone else will be sharing your micro-computer and also using *umail*, it is necessary that each person have a different mailbox, configuration file, etc. The simplest way to accomplish this is to create individual mailbox directories and individual "working" directories for each user. The *umailrc* file for each user should then be moved to his working directory. On system boot-up, or whenever a particular user wishes to use *umail*, he changes to his working directory before invoking the program. This should provide the necessary separation of mail. There is no way to prevent one user from viewing another user's mailbox on the micro-computer. However, no user will be able to get another user's new mail from the mini-computer, nor will any user be able to send mail using the *userid* of another user. Thus, the mail system security is preserved. Note: The executable modules in the *umail* system need only be in one common directory for all users.

Example: Suppose Elizabeth and Carl share the same PC, and both want to use Micro-Mail. The following process will enable them to read and send their mail independently:

1. Create working directories for liz and carl:

```
c:\> mkdir liz ↵  
c:\> mkdir carl ↵
```

(This assumes that they do not already have independent working directories; if they do, those directory names should be substituted in the following discussion.) Since "Elizabeth" contains 9 characters, a shorter version of her name is used.

2. Use **uminst** to install one of their directories, say Elizabeth's, answering with her *userid* and other preferences; in particular, give a unique name for her mail directory, say *liz\mail*. Assume that *c:\bin* is chosen as the directory to receive the executables and the *umailrc* file.

3. After the installation is complete and checked, copy Elizabeth's *umailrc* file to her working directory, then delete it from *c:\bin*:

```
c:\> copy c:\bin\umailrc c:\liz ↵  
c:\> del c:\bin\umailrc ↵
```

4. Repeat steps 2 and 3 for the other person (Carl), using his *userid* and preferences, and choosing a unique name for his mail directory, say *carl\mail*. Choose the same directory name for the executables and the *umailrc* file. After the installation, copy Carl's *umailrc* file, then delete the original:

```
c:\> copy c:\bin\umailrc c:\carl ↵  
c:\> del c:\bin\umailrc ↵
```

5. This completes the installation. When either person wants to use **umail**, she or he must first change to the appropriate working directory. This can be just after the PC is booted, or many hours later. Elizabeth would execute **umail** as follows:

```
c:\> cd c:\liz ↵  
c:\> umail ↵
```

Elizabeth's mailbox and associated files will reside in *c:\liz\mail*, and Carl's in *c:\carl\mail*. **umail** will read their respective *userid*'s and mail directories from their individual *umailrc* files, which are located in their personal working directories. It is possible to create batch files for each of them to use to avoid the two steps necessary to use **umail**. Contact the CRC for further information.

§5.5 Determining Others' Addresses

The NOSC phonebook program, **pb**, is available for installation on micro-computers with sufficient disk space. You will find it valuable for obtaining the email addresses of intended recipients of outgoing mail. You may access it from within **umail** by entering **'pb**, either in the command mode or at a prompt, such as "To:" or "Cc:". (See appendix §A1.1 for more information.) To use **pb**, you must first have it installed on your PC. Contact the CRC for further information.

Chapter 6: *umailrc*, The Micro-Mail Configuration File

§6.0 Introduction

The Micro-Mail configuration file *umailrc* is used to identify the individual user to the mail system and to permit each user to select among the various functional options, or attributes, available. In this chapter, examples of all important attributes are listed, and information is provided on how to modify them.

§6.1 *umailrc* Description

The *umailrc* file consists of a number of lines of text. Each line must begin with the name of an attribute, one or more spaces or tabs to indicate a continuation line, or the pound sign (#) to indicate a comment line.

On an attribute line, the name of the attribute must be followed immediately by a colon (:). (as shown in the tables); parameter value(s) (if any) follow the colon, separated from it by zero or more spaces or tabs. The attribute line can be extended with continuation line(s) immediately following it; such continuation lines must begin with one or more spaces or tabs. Comments can be included following the colon on lines for attributes which do not take arguments; they should not be included on other attribute lines, since some take an indefinite number of arguments.

The *umailrc* file is created during the installation process. Values for the necessary attribute parameters are obtained as answers to questions. Standard values are provided for others. Still other attributes are simply not activated. A user can change parameters or activate attributes at any later time, using a standard text editor.

§6.2 Types of Attributes

Attributes can be grouped by type. In this manual, they have been grouped into six different types:

1. Attributes Unique to Each User: These required attributes define your *userid* (*user:*) and *mailhome*; and preferred *editor*; and communications *link*.
2. File Specifications: These are used to name files and directories.
3. Automatic Mail Handling: These are used to enable and control automatic mail checking, getting, sending, and saving of downloaded mail.
4. Miscellaneous Attributes: These are the attributes which do not fit into any other group.
5. Display Color and Monochrome Attributes: These attributes control the appearance of the color or monochrome display.
6. Extended Key Set: These are used to define preferred control keys in addition to the standards.

All of the attributes available are listed by type at the end of this chapter, along with an example of their parameter values (if any). Standard values are provided during installation for a number of attributes; where appropriate, these are the values given in the lists and marked †.

§6.3 Modifying Attributes

While all attributes are assigned appropriate initial values during installation, you will probably want to change some of them, if not right away, then later when you have become more familiar with Micro-Mail. Attributes and their parameters can be changed using any standard editor; the file should be written in ASCII (sometimes called "text" or "nondocument") mode.

You may enable, disable, or change the parameter values for any attribute, but you should never change your *userid* (*user:*), *mailhome:*, or communications *link:* parameter unless the real parameter actually changed. Of the other attributes, there are some in particular that you may wish to add:

autoget:	get mail automatically
autosend:	send mail automatically
mailcheck:	check for mail automatically
startcheck:	check for mail as umail starts
record:	save outgoing mail
serverbak:	save downloaded mail on mailhome
printer:	set up alternate printing
nobackup:	suppress <i>mbox</i> backup as umail starts
noeof:	suppress ^Z in <i>msg</i> file
nomenu:	suppress command list in header display

Examination of the *umailrc* file will show that lines for all important attributes have been included. For many, the lines begin with the pound sign (#), making them comments. This disables the particular attribute; to enable it, simply delete the #. This applies to most of the attributes listed above. On the other hand, for **record:**, **serverbak:**, and **printer:**, you may want to change or add parameter values in addition to enabling them. To disable any attribute, insert a pound sign at the beginning of the line, rather than deleting the line, so that you can easily re-enable it at some future time. For more information on any particular attribute, see the **umail** manual pages (appendix 4).

§6.4 **printer:** Attribute

NOTE: This section applies to **umail** Versions 1.01 and higher.

The **printer:** attribute requires additional information, because of its special format and versatility. The standard form is shown in the Miscellaneous Attributes table; the more general form follows:

printer: *progname* [*arguments*] %*s* [*arguments*]

In this line, **progname** is the name of any program existing on your PC which you want activated by the **print** command, %*s* is required as shown, and [*arguments*] indicates that any arguments (or options) can be placed where shown (without the square brackets). When <*progname*> is invoked by the **Print** key, any arguments listed are passed to it, and the name of a file which contains the message(s) to be printed is substituted for %*s*.

As examples, the standard **printer:** attribute is the following:

printer: **print** %*s*

This invokes the MS-DOS **print** command to print the file containing the selected message(s).

To use a personal printer connected through a T-Box to the GCB, the following attribute line would be used:

printer: pcprint %s

The program **pcprint** must be available on your PC, with information about the actual printer to be used.

To use the MIT command **Ipr** with the MS-DOS **print** command, the attribute line would be the following:

printer: Ipr -Plocal %s

This illustrates the use of an option to be passed to the named program.

§6.5 serverbak: Attribute

When the **serverbak:** attribute is enabled, all mail downloaded to your PC is also saved in a file on your mailhome mini-computer. This provides protection against losing the mail, either during the downloading process or afterwards on your PC. It also allows you to handle some or all of the mail on the mini-computer, rather than the PC. (See section §2.5, **Dual mailboxes**.)

If the **serverbak:** attribute is enabled with the parameter *mbox*, as shown in the table, then all downloaded mail will be appended to file *mbox* in your home directory on your mailhome mini-computer i.e., to your mini-computer mailbox. If you choose this form of **serverbak:**, you should access the mini-computer frequently and delete unwanted messages, to prevent the named file from becoming unmanageable in size. (Any filename other than *mbox* can also be used, and downloaded mail will be appended to it.)

The **serverbak:** attribute can also be enabled with no filename parameter. In this case, all downloaded mail is appended to the file */usr/spool/mail/userid.bak*, where your *userid* is substituted in the filename as shown. Each night, all of your downloaded mail in this file is moved to a file named */usr/spool/mail/userid.ddd*, where "ddd" is actually the first three letters of the particular day of the week. This file is maintained on the mini-computer for exactly one week, when the next week's mail for that day replaces it.

The form of the **serverbak:** attribute you choose will depend primarily on your particular needs. The first form described is more useful as an aid in solving the dual mailbox problem, and requires your periodic attention. The second form is more useful to provide short-term protection against loss of your mail, since it requires no attention from you.

UMAIL Attributes Unique to Each User

Sample	Remarks
user: smith	Specify the user-id for sending and receiving mail
† editor: ee	Editor to use from within umail
mailhome: cod	Specify mailhome mini-computer
link: tbox com1,7,c90 9600	Tbox connection; com port1,location 7,call c90,9600 baud

UMAIL File Specifications

Sample	Remarks
† maildir: c:\mail	Directory for mail on the PC
† draft: draft	File for composing messages to be sent
† curmsg: msg	File holding message being answered
† record: chron	File to save all mail sent

UMAIL Automatic Mail Handling

Sample	Remarks
startcheck:	Check for new mail on umail startup
† mailcheck: 15	Check for new mail every 15 minutes
autoget:	Download new mail at mailcheck intervals
autosend:	Send queued mail at mailcheck intervals
† serverbak: mbox	Save copy of downloaded mail on the mini-computer

UMAIL Miscellaneous Attributes

Sample	Remarks
alias: coan keil, clements	Name for frequently used list of names
fields: bcc,cc,date,from,to	Fields included when a message is displayed
machname: aquarius	Machine name for the PC (Ethernet links only)
nobackup:	Suppress backup of mailbox on entry
noblink:	Ensures no unwanted blinking on color displays
noeof:	Suppress ^Z at end of "draft" file
nomenu:	Suppress 2-line menu display
nowait:	Fast screen update, may cause "snow"
percent:	Show percent of message read in lower right corner
† printer: print %s	Specify print program
† sendtime: later	Specify prompt default for sending messages

UMAIL Display Color Attributes

Sample	Remarks
† ccurmsg: yellow, magenta	Current message highlight colors
† cheader: iwhite, blue	Header display, intense white on blue
† chighlight: black, white	Highlight colors for "marked" messages
† cmenu: white, red	Menu display at top of screen
† cstatus: iwhite, red	Status line at bottom of screen
† ccommand: iwhite, red	Command line, next to bottom line
† border: lblue	Screen border color
† background: blue	Screen background color

UMAIL Display Monochrome Attributes

Sample	Remarks
† ccurmsg: black, white	See corresponding Color Attributes' remarks above
† cheader: white, black	" "
† chighlight: iwhite, black	" "
† cmenu: white, black	" "
† cstatus: iwhite, black	" "
† ccommand: iwhite, black	" "
† border: (not used)	" "
† background: (not used)	" "

UMAIL Extended Key Set

Sample	Remarks
† cup: ^K, ^E, k	Cursor up one line (up arrow)
† cdown: ^J, ^X, j	Cursor down one line (down arrow)
† home: ^Q^R, ^QR, ^Qr	Same function as "home" key
† end: ^Q^C, ^QC, ^Qc	Same function as "end" key
† pagedown: ^C, ^F, ^V	Same function as "pagedown" key
† pageup: ^R, ^B, ^]v	Same function as "pageup" key

Appendix 1: MS-DOS Considerations

§A1.0 Minimum MS-DOS Commands

umail runs within the MS-DOS environment which means that you must know a certain minimum number of MS-DOS commands to use **umail** effectively. These are the commands you must know:

dir

used to display file names, e.g.:

C:\> dir ↵

cd

used to change directories, e.g.:

C:\> cd .. ↵

C:\> cd mail ↵

mkdir

used to create a subdirectory, e.g.:

C:\> mkdir mail ↵

rmdir

used to remove a subdirectory, e.g.:

C:\> rmdir temp ↵

type

used to display the contents of a text file, e.g.:

C:\> type note.txt ↵

a: or **c:**

used to switch disk drive assignment, e.g.:

C:\> a: ↵

del

used to remove a file, e.g.:

C:\> del file.txt ↵

copy

used to make a copy of a file, e.g.:

C:\> copy file.txt report.txt ↵

rename

used to change the name of a file, e.g.:

C:\> rename mail.txt mail.old ↵

§A1.1 Shell Escape Feature

umail provides a "shell escape" feature (similar to UNIX's) that allows you to execute an MS-DOS command from within **umail**. This means that you can execute a **dir** or **pb** without having to stop **umail**. The reason for doing this is to avoid incurring the overhead associated with stopping **umail**, executing the MS-DOS command, and then restarting **umail**. Press the "!" key. You will be prompted for the MS-DOS command. Enter the full command, followed by ENTER:

!dir ↵

After the **dir** executes, control will return to **umail** after you press any key.

§A1.2 MS-DOS Editors From Within **umail**

When you compose a message you must use an editor. **umail** allows you to specify the editor you prefer. You specify the default editor by setting the value of the **editor:** parameter in *umailrc* as follows:

```
editor: ee
```

If you do not specify an editor, **ee** is used. Note that you can specify the name of any editor that resides in a path directory (**emacs**, **vi**, etc.). If you have a favorite editor, simply install it in the directory and assign the **editor** variable its name.

§A1.3 MS-DOS TSR Programs

There are a number of programs on the PC that use the "TSR" mode of execution. TSR stands for "Terminate and Stay Resident." The standard MS-DOS utility **print** is probably the most common of these types of programs. The first time a user runs the **print** utility, a program is loaded at the lowest memory locations currently available. When the **print** finishes, the program stays in memory (stays resident). The usual transient programs are then loaded into memory at addresses above the resident program(s).

Earlier in this manual it was stated that the user's *autoexec.bat* file should contain a line such as the following:

```
print < dummyprt.tmp
```

The **print** utility is used within **umail** to generate printer output. If the **print** program is not already resident, it loads after the **umail** program. When **umail** terminates, the area of memory occupied by it is lost for use until the PC is rebooted.

It is possible to execute any program from within **umail** by using the "escape to MS-DOS (!)" command. In particular, you might unwittingly execute a TSR type program. The only indication of such is a decrease in the memory available. The MS-DOS command **chkdisk** writes the amount of memory available as its last action. The user would do well to perform this command and note the memory free figure when he first boots his PC. On a PC with 640K of memory, it will be typically around 540K bytes free. One can execute a **chkdisk** again from time to time to insure that usable memory is not disappearing.

One problem which can occur when you use **umail** and also some TSR programs, such as **SideKick**, is an apparent "freezing" of your PC. This can occur if the TSR is invoked while **umail** is running. If the TSR and **umail** are using a different screen "page," the TSR display will not appear, but the TSR will have taken keyboard control away from **umail**. Thus, the PC will seem to be frozen, but in actuality it is working correctly. The solution is either to exit normally from the TSR program or to restore control to **umail** by invoking a command such as **h**, rather than rebooting your PC. This condition is most likely to occur when **umail** is displaying the contents of a message, since this display uses screen page 1.

The subject of TSR programs is confusing and complicated. If you have any questions please contact the Computer Resource Center (CRC), x35457 (Bayside), x32268 (Topside), or x5240 (HI).

Appendix 2: Micro-Mail Commands

§A2.0 umail command summary.

a	Answer the current message including all Cc:'s
A	Answer the current message without including Cc:'s
b or B	Backup and display the previous message
c or C	Check for new mail
d or D	Delete (undelete) the current message (a toggle)
e or E	Expedite (send) queued messages
f or F	Forward the current message
g or G	Get new mail from the mini-computer
h or H	Display the Header summary page
m or M	Mark (unmark) current message (a toggle)
n or N	Display the Next message
o or O	Open a different mailbox
p or P	Print message(s)
q or Q	Quit; update mailbox
s or S	Send (compose) a new message
t	Type (display) the current message
T	Type (display) the current message with all headers
v or V	saVe message to a file
x or X	eXit; don't update mailbox
?	Get help
F1	" "
!command ↵	Execute MS-DOS "command"
/string ↵	Search the current message for "string"
. (period)	Continue search for "string"

§A2.1 Other keys

Up Arrow	Move up 1 line; scroll if needed
Down Arrow	Move down 1 line; scroll if needed
Space Bar	Display next page
PgUp	Display previous page
PgDn	Display next page
Home	Display first page
End	Display last page
ESC	Quit the current command
Alt-L	Redraw display
Alt-R	Redraw display
Alt-F1	Show (remove) command menu (a toggle)
Alt-F10	Exit from umail immediately!
	(Note: Alt-F10 should be used only if there are no other alternatives.)

The **ESC** key can be pressed whenever you wish to stop the current command. For example, if you've just **Answered** a message and suddenly decide that you don't really want to answer it, press the **ESC** key.

Appendix 3: Micro-Mail Error Messages

§A3.0 Introduction

The following is an alphabetical listing of **umail** error messages. An explanation of each error message is given, as well as instructions on what to do.

§A3.1 Umail Error Messages

progname: Unable to locate program. Check PATH.

Micro-Mail was unable to execute "progname". Please make sure that "progname" is in one of the directories listed in the environment PATH variable. If it is, please send a message to *umailadmin*, or call the CRC to report the problem.

Already have 10 mailboxes open. Can't open any more.

Only ten mailboxes can be open simultaneously. One or more of the current mailboxes will have to be closed by using the **Quit** or **eXit** commands before another can be opened.

alias: Can't alloc space for aliasname
alias: Can't allocate room for 'aliasname'
alias: Can't allocate space for list

There is no more memory available for aliases. There are too many aliases or the alias lists are too long. Please send a message to *umailadmin* or report the problem to the CRC.

Can't allocate N bytes for seekary, sizmem=S

This error can occur in response to a **Type**, **Back** or **Next** command. The message to be displayed is either too long (more than 4000 lines) or there isn't enough memory available. Please save the mailbox and the *umail.log* file and contact the CRC.

Can't allocate sbuff!
Can't allocate space for buff

This error occurs while Micro-Mail is scanning the list of addressees for aliases. Not enough memory is available, possibly because there are too many aliases, the list of addressees is too long (longer than a page), or a previous error has prevented a chunk of memory from being deallocated. Restart the program and try again. If the error persists, please send a message to *umailadmin* or call the CRC.

Can't allocate space for status array

While opening a mailbox, Micro-Mail was unable to allocate space for an array that keeps track of the status of each message. If you have more than one mailbox open, try closing all but one of them and then try to reopen the desired mailbox. If this doesn't work, try restarting **umail**. The mailbox may also have too many messages in it (more than 8000), but this is unlikely.

Can't allocate To: buffer

This error occurs under the same circumstances as the "Can't allocate sbuff!" error.

Can't exec pop2 client

Micro-Mail was unable to execute the **pop2** program in response to a **Check** or **Getmail** command. Make sure that *pop2.exe* is in one of the directories named in the PATH environment variable, or that it is in the current directory. There may also be insufficient memory to execute the program. Make sure that no memory-resident programs have been started from within Micro-Mail. Restart **umail** and try again.

Can't make index table

While creating a ".idx" file in response to the **Open** command, **umail** encountered some kind of error. This may be due to a lack of disk space, a disk error or an improperly formatted mailbox. Make sure that the file you are trying to open is a valid mailbox and that there is sufficient disk space. Index file creation normally only requires 1k to 4k of disk space.

Can't open filename

Micro-Mail tried to open the given file but was unable to do so because the file doesn't exist. This may happen if the user has changed directories either with the **!cd dirname** command or if the directory has been changed within the user's editor while creating or editing a message.

Can't open filename as handle 0
Can't open filename as handle 1
Can't open filename as handle 2

You should never see any of these messages. Please save your mailbox and *umail.log* file and report the problem to the CRC.

Can't open filename for reading header, errno=N

You should never see this message. Please record the number "N", save the mailbox and *umail.log* file, and send a message to *umailadmin* or call the CRC.

Can't open filename, errno=N

This message can occur while Micro-Mail is formatting a message just prior to actually sending it. An error was encountered while trying to create the given file. Please **eXit** the program and try again. If the problem persists, call the CRC or send a message to *umailadmin*.

Can't open forward file.

The user has just invoked the **Forward** command and Micro-Mail was unable to create a file to contain the forwarded message. There may be insufficient disk or directory space. Please **eXit** and try again.

Can't open log file

Micro-Mail creates a file named *umail.log* in the mail directory. This error may occur if the mail directory doesn't exist or if there is insufficient disk space.

Can't open message file filename for recording.

Can't open record file filename

You should never see either of these messages. Please report the problem to the CRC.

Can't open save message file.

This error can occur when the user attempts to **Answer** a message. Micro-Mail is trying to save the message being answered to a file and is unable to do so. Make sure there is sufficient directory space available. **eXit** and try again.

Can't save message to an opened mailbox

The user is trying to **saVe** a message to a mailbox that has already been opened. This is not allowed. You will have to either save the message to an unopened mailbox, or close all mailboxes up to and including the desired mailbox with the **Quit** or **eXit** commands. You may then reopen the mailbox containing the message to be saved and save it to the desired mailbox.

Can't save message to the outgoing message file

The user tried to **saVe** a message to file that contains all the mail generated by the user. This is the file named in the **recordpath:** variable of the *umailrc* file. Saving to this file is not allowed.

Couldn't allocate fcopy buffer.

Micro-Mail was unable to allocate a chunk of memory to copy one file to another. Please **eXit** and restart the program. If the problem continues, please contact the CRC or send a message to *umailadmin*.

Couldn't exec pop2 -c

Couldn't exec smtp

Micro-Mail was unable to execute the named program in response to the user's request to **Check** or **send a message**. Make sure that both *pop2.exe* and *smtp.exe* are either in the current directory or are contained in one of the directories named in the **PATH** environment variable.

Couldn't re-open previous index file

You should never see this message. Please save the mailbox and the *umail.log* file and contact the CRC.

error 2000: Stack overflow

error 2001: Null pointer assignment

error 2003: Integer divide by 0

error 2002: Floating point not loaded

error 2004: MS-DOS 2.0 or later required

error 2009: Not enough space for environment

These are serious errors. Please write down the specific error and call the CRC.

Error in reading index file

Micro-Mail was unable to open the index file for reading. Please restart the program and try again.

fcopy: can't open filename. errno=N

In preparation for copying one file to another, Micro-Mail was unable to open one of them. This may be because there are too many open mailboxes or there isn't enough disk space. Please restart and try again. If the error persists, write down the number "N", save the mailbox and *umail.log* file, and call the CRC.

File types not allowed on message files

The user tried to save a message and included a file type, e.g. "c:\mail\message.sav", where the ".sav" is not allowed. A filename without a file type will have to be entered.

Filetypes not allowed in mailboxes, 'filename'

The user tried to open a mailbox that had a file type, e.g. "c:\mail\project.msg", where the ".msg" is not allowed. You will have to rename the given mailbox such that it no longer has a file type.

**fixrcept:Can't allocate Bcc: cp
fixrcept:Can't allocate Cc: cp
fixrcept:Can't allocate str
fixrcept:Can't allocate To: cp**

The user has entered an invalid *userid*. After the user entered the correction, Micro-Mail tried to allocate a chunk of memory for further processing and was unable to do so. Please exit and restart *umail*.

Heap bad error, kemosabe. Must quit.

This is a fatal error that returns the user to the operating system. It is usually preceded by another, more descriptive error message. Please follow the instructions for the first error message.

Invalid key. Hit ?? for help.

The user has struck a key that Micro-Mail doesn't recognize.

Mailbox filename is already open.

The given mailbox has already been opened. Micro-Mail doesn't allow the same mailbox to be opened twice.

Maximum Cc: line length exceeded. Ignoring the rest

The maximum number of characters on the "Cc:" header line is 2000. This is over a page worth of addressees. If more are required, you can add them to the "To:" line.

Message files cannot have extensions

The user tried to **saVe** a message and included a file type, e.g. "c:\mail\message.sav", where the ".sav" is not allowed. A filename without a file type will have to be entered.

Message has no To: line! Aborting

After a message was created with the **Send**, **Answer** or **Forward** command, Micro-Mail scanned the message looking for a "To:" header line and was unable to find one. All messages must have a "To:" line.

No match.

A search operation initiated with the '/' or '.' command was unable to find a matching string in the current message.

No more messages.

The user is on the last message in the mailbox and has used either the **Next** command or struck the down-arrow key on the header display. There are no more messages below the current message.

No more room for aliases.

This is a fatal error. All of the available memory space is used and there is no more room for aliases. The number of aliases in the *umailrc* file will have to be reduced.

No pattern entered yet. Use '/' to enter pattern.

The user hit the '.' key to invoke the "search again" function. However, no search pattern has been entered since Micro-Mail was started. Enter a search pattern by hitting the '/' key.

No such host: hostname

Micro-Mail was attempting to communicate to the mail server "hostname" and was informed that the given host doesn't exist. Make sure that "hostname" is valid. If not, correct the **mailhome:** line in the *umailrc* file. If the host name is valid there may be network problems. Contact the CRC.

No such mailbox or bad mailbox format.

Micro-Mail was unable to find the mailbox file in response to the **Open** command, or the file is not in a valid mailbox format. Check the spelling and correct if necessary. If the mailbox is not in the mail directory specified in the *umailrc* **maildir:** line, you will have to supply the complete path name when given the **Open** prompt.

No *umailrc* file.

The *umailrc* file was not in the current directory nor in any of the directories listed in the PATH environment variable. Please move the *umailrc* file to one of these directories. If it doesn't already exist, use the **uminst** program to create it.

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No umailrc file?

The *umailrc* file was found but Micro-Mail was unable to open it. Please contact the CRC.

Nobody to reply to! Ack, Gag, Phhtphpt!

The user tried to **Answer** an invalid message. The message probably did not have a "From:" or "Resent-From:" or "ReplyTo:" line. This error typically occurs when a user opens the record file (also called the "*chron*" file) and attempts to answer his or her own message. If you have a valid message and are unable to answer it, please contact the CRC.

Not a valid mailbox

The user invoked the **Open** command with a file that was not in a valid mailbox format. Check the spelling and make sure that the file you're trying to open is the file you intended. The file you want may actually be in a different directory.

editorname: Not enough core

There is not enough memory left in the computer to bring up the user's editor "editorname". This error usually occurs when the user has inadvertently started a second copy of Micro-Mail by using the "!" shell escape command. It can also occur when a TSR program has been installed on top of Micro-Mail. Try exiting *umail* and restarting. If that doesn't work, try rebooting your machine to get rid of a possible TSR program. If it still won't come up, you may not have enough memory. Contact the CRC.

pop2 called incorrectly. Make sure you have the latest version.

The **pop2** program was called with an incorrect number of arguments. You may have an old version of *pop2.exe* with a new version of *umail.exe* or vice versa. Examine all the directories on your search path and delete old or duplicate copies of both programs.

pop2: FATAL ERROR. Save everything and call the CRC!

Something bad happened during the mail downloading process. Please try again. If the problem remains, call the CRC.

pop2: Mail server timed out.

This error happens occasionally during a **Getmail** or **Check** command. Either the user's mailhome machine is down or there are no Micro-Mail server ports available. Wait a few minutes and try again.

pop2: Protocol error. Please try again.

You should never see this message. If you do, try again. If you continue to get this error, contact the CRC.

pushdir: Can't change directories

Micro-Mail was trying to change to the mail directory to create a spool file in response to a **Print** command. Please contact the CRC if you get this message.

```
readhdr: can't alloc node->field. Better quit  
readhdr: can't alloc node->val. Better quit  
readhdr: can't allocate BUFSIZE bytes  
readhdr: Can't allocate LINEBUF bytes  
readhdr: can't allocate node. Better quit
```

No memory is available for the current operation. Please **eXit** and restart. If the problem continues, contact the CRC.

```
replace: couldn't repl `userid1' with `userid2'
```

Micro-Mail was unable to replace the bad *userid* "userid1" with the correction "userid2". This error should never occur. Please **eXit** and try again. Contact the CRC if the problem continues.

```
savemsg: Can't alloc tbuff
```

There is an inadequate amount of memory to save a message to a file. This may occur when **saving** or **Answering** a message, or when a mailbox is being updated. If the problem is repeatable, please send a message to *umailadmin* or call the CRC.

```
sendtime: 'string' illegal. Must be 'send' or 'later'
```

This is a fatal error. The **sendtime:** line in the *umailrc* file has an invalid argument. The only valid attributes are **sendtime: later** or **sendtime: send**.

```
sltbox called incorrectly. Make sure you have the latest version.
```

The **sltbox** program was called with an incorrect number of arguments. You may have an old version of *sltbox.exe* with a new version of *umail.exe* or vice versa. Examine all the directories on your search path and delete old or duplicate copies of both programs.

```
sltbox: FATAL ERROR. Save everything and call the CRC!
```

This could be serious. Do what the message says.

```
sltbox: Unable to connect to server.
```

This error happens occasionally when the mail server is accessed. It is a temporary condition, usually caused by the mail server being down or all the Micro-Mail T-Box ports busy.

```
sltbox: Mail server timed out.
```

This error may occur any time a mail transfer operation is being initiated (e.g. **Getmail**, **Check**, **Send**). All of the Micro-Mail server ports are busy. Please wait a few minutes and try again.

```
smtp called incorrectly. Make sure you have the latest version.
```

The **smtp** program was called with an incorrect number of arguments. You may have an old version of *smtp.exe* with a new version of *umail.exe* or vice versa. Examine all the directories on your search path and delete old or duplicate copies of both programs.

smtp: FATAL ERROR. Save everything and call the CRC!

Something bad happened during the mail uploading process. Please try again. If the problem remains, call the CRC.

smtp: Invalid recipient

One or more of the addressees in a message being sent were incorrect. You will be prompted to correct each invalid *userid*.

smtp: Mail server timed out.

This is a noncritical error. Please try to send the message again later.

smtp: Protocol error. Please try again.

You should never see this message. If you do, try again. If you continue to get this error, contact the CRC.

stripsavemsg: Can't alloc tbuff

There is an inadequate amount of memory to save a message to a file. This may occur when saving a message, answering or when a mailbox is being updated. If the problem is repeated, please send a message to *umailadmin* or call the CRC.

The "Text:" header has been deleted. Please re-insert it before the text of your message.

The header lines are separated from the message body by the header line "Text:". Micro-Mail has found that the message you just created is lacking the "Text:" line. Please insert "Text:" just before the text of your message.

type: Can't open spool file

Micro-Mail was unable to create a spool file in response to a Print command. This may be due to a lack of sufficient disk space. Make sure that there is adequate space available on the disk and try again.

umailrc: unknown keyword 'string'

This is a fatal error. Micro-Mail encountered an invalid line in the *umailrc* file. Please check the line and correct the spelling or remove the line as necessary. This error may also occur if an old copy of *umail.exe* is being executed with a newer copy of the *umailrc* file.

Unable to send message now. Message has been queued to be sent later.

Micro-Mail was unable to send the message, possibly because the mail server was down or all the T-Box ports were busy or there was some other error in the sending process. The message has been saved and can be sent at a later time with the Expedite command.

Unknown return code from <progname>, N

Please write down this information and contact the CRC.

User aborted <progname>.

The user hit the ESC key while a message was being sent or downloaded. This message is merely present for your information.

User authentication failure.

The user entered an invalid password at the "Password:" prompt. Try the command again and enter the correct password. If you are sure you are typing the right password, please contact the CRC.

Appendix 4: Micro-Mail System Manual Pages

Micro-Mail User's Guide

A4-i

NAME

slipd - slip daemon

SYNOPSIS

/usr/local/etc/slipd

DESCRIPTION

Slipd provides serial line internet protocol (SLIP) access via tty ports. It is similar in concept to the *init(8)* command in that it manages a set of tty ports based on a configuration file and initiates the requested service once a call is made into that port. This server is usually started from */etc/rc.local* but can be started manually if there is no other *slipd* running.

Slipd begins by processing the configuration file */usr/local/etc/slipd.conf*. This configuration file contains lines with keyword value pairs with keywords chosen from the set "netmask", "ifaddr", "nameserver", and "logfile". White space must separate the keyword from the value. Address values may be hostnames, hex addresses, or addresses specified in internet dot "." notation. The "netmask" keyword specifies the netmask that should be used for each of the slip interfaces. For example, "netmask 0xfffff000" would specify a 4 bit subnet mask for a Class B address. The "nameserver" keyword specifies the addresses of the closest nameservers. This is used to tell the client during slip link establishment who it should use as a domain name server. Up to 3 nameservers can be given with the nameserver of highest preference listed first. For example, "nameserver manta bass" says use host manta and bass for resolving nameserver queries. The optional "ifaddr" keyword can be used to specify the local interface address for each of the slip interfaces. If "ifaddr" is not specified, the network address of the local host will be used. For example, "ifaddr 128.49.16.2" says to use 128.49.16.2 as the local interface address for all the slip interfaces that are initialized with *slipd*. The "logfile" keyword is used to specify that additional logging information is to be kept in the specified file. For example, "logfile /usr/adm/slipd.log" will cause logging information to go into the file */usr/adm/slipd.log*.

The configuration file also contains lines describing each port which is to be controlled by *slipd*. The format of these lines is "*ttyname dstaddr [ifaddr]*". *Ttyname* is the name of a tty port without the */dev/* in front of it. The *dstaddr* argument specifies what destination address to apply to the slip interface when it is initialized. The optional *ifaddr* argument specifies what local interface address to use if you don't want to use the default *ifaddr*. For example, "tty00 pc-1" says to apply a destination address of *pc-1* when a call is made to port *tty00*. The local interface address in this case would be the default which is the network address of the local machine or that specified by an *ifaddr* keyword. Another example, "tty02 pc-3 128.49.160.131" says to apply a destination address of *pc-3* when a call comes in on *tty02* but to also use a local interface address of *128.49.160.131*. This is generally necessary on SUN systems because their point-to-point routing setup is broken and gets confused if the local interface addresses are not unique across ALL interfaces.

When a connection is made to a *slipd* server port, *slip* will announce itself and wait for a request from the remote user. At this time, only two request types are implemented. The requests are of the form "slip *userid* [*password*]" or "nslip *userid* [*password*]". This command requests slip (or nsip) access for the user specified in *userid*. If a *password* is given, then password verification will be performed against the given *userid*. After the slip request is processed, a message of the form "*dstaddr ifaddr netmask nameservers*" is sent to the requestor. These values are all given in hex with no leading *0x*. Each value is separated from the others with white space and the nameservers are given as a comma separated list. *Dstaddr* tells the requestor what should be used as his IP address. *Ifaddr* tells the requestor what to use as a default gateway address. *Netmask* tells what the subnet mask is for this link. *Nameserver* specifies what the requestor should use as a nameserver for resolving domain names. At this point *slipd* initializes the next available slip interface as provided by the kernel. It sets the interface destination address, then the network mask, and then the interface address. At this point the link is set up and the requestor has a full internet connection.

For logging purposes, utmp and wtmp are updated whenever a connection is made or whenever it is terminated. This is so one can do a *who(1)* and see who is connected. You can also issue a *last(1)* command and see who has connected recently. If a "logfile" is specified in the configuration file, then connections and other information is also logged in the specified file.

If you send a terminate signal (signal SIGTERM) to the master *slipd* process using the *kill(1)* command, all child processes will be killed and then the master process will terminate. This is the recommended way to shut down the slip server because it has many child processes (one per configured tty port). You can find the process ID of *slipd* in */usr/local/etc/slipd.pid*.

When a hangup signal (signal SIGHUP) is received by any of the child processes, this indicates that the connection has been terminated and it will then shutdown gracefully, freeing up the slip interface and tty port. When an interrupt signal (signal SIGINT) is received, this indicates that the slip interface has received a control packet indicating that a hangup is requested. At this point the process drops DTR on the tty port so that the connection will drop and the hangup signal will be generated.

For the SUN version of *slipd*, routes are added and deleted explicitly from the routing table. This is because the rtinit calls have been removed from the SUN slip driver since the SUN point-to-point routing software is broken.

DIAGNOSTICS

userid not a registered user. The given userid is not registered on this system.

userid authorization failure. The password is invalid for the given userid.

strange interrupt on *ttyport*. An interrupt other than SIGHUP or SIGINT was received by one of the slave processes.

Unknown serviced (*service*). A service other than "slip" was requested.

FILES

/dev/tty*
/usr/local/etc/slipd.pid
/usr/local/etc/slipd.conf
/etc/utmp
/usr/adm/wtmp
/etc/rc.local

AUTHOR

Ron Broersma

NAME

sltbox - Negotiate SLIP connection via Sytek Tbox

SYNOPSIS

sltbox [-d] [-h] [com,]location,call[,port] baudrate [userid [password]]

DESCRIPTION

Sltbox is a program for MS-DOS systems which will complete a connection to a slip server such as *slipd(L)* via a Sytek Tbox and negotiate SLIP link establishment.

Options are:

-d Print debugging information.

-h Hang up the connection.

In the first argument group, the *location* and *call* give the Tbox address of the SLIP server. The optional *port* argument can be used to specify a particular port on the called Tbox. The optional *com* argument specifies which com port on the PC to use. The default is COM1. The *baudrate* argument specifies what baudrate to use when communicating with the local Tbox. The *userid* argument is passed on to the SLIP server and is used for logging purposes. If a *password* is given, then authentication will be performed on the server with the given userid and password.

When called, *sltbox* will try to initiate a connection to the specified server address by sending the appropriate call sequence to the locally connected Tbox. If a successful connection was opened (Tbox returned a "CALL COMPLETED" message) then *sltbox* will send a slip request to the server. This request is the word "nslip" followed by the given userid and password, if any. The server should respond with 4 or more 32 bit hexadecimal numbers which specify various network configuration parameters. These values are stored in the network device driver for use by the network applications. The values specify the local internet address that is assigned to the PC, the default gateway that the PC should use, the subnet mask, and the internet addresses of the closest nameservers. If the userid and password are found to be invalid by the slip server, it will instead return a 1. If this happens, *sltbox* will exit with EX_AUTH. If the slip server detects any other error in the request, it will return a 0. This will cause *sltbox* to exit with EX_PROTOCOL.

If the **-h** option is given, *sltbox* will attempt to hangup any outstanding Tbox sessions. It will first issue a SLIP control packet hangup request to the SLIP server which should cause the connection to be shut down remotely. If that fails, then a BREAK will be sent to get control of the Tbox and the DONE command will be sent.

SEE ALSO

slipd(L)

AUTHOR

Ron Broersma

NAME

smtp - Deliver a message using the SMTP protocol

SYNOPSIS

smtp [-d[*level*] [-u] [-v] *server filename from-user[@hostname] [myhostname]*]

DESCRIPTION

Smtp is a program for MS-DOS systems that delivers messages to a remote *smtp* server using the Simple Mail Transport Protocol as defined in RFC821. The messages must be formatted according to RFC822 "Standard for the Format of ARPA Internet Text Messages". *Smtp* comes in a number of versions supporting various network environments available on the PC. For proper operation, you must use the *smtp* that is configured for your network environment. The network environments generally in use at the time of this writing are PC/IP (serial version using SLIP), PC/IP (ethernet version), FTP Software, Sun PC-NFS, and the KA9Q net.exe.

Options are:

- d [*level*] Print debugging information. A debug level can be specified for increased amounts of debug information. This must be a positive integer value. Level 1 is the default and will display the control packets and connection status. Debug levels greater than 2 will display all data sent to the remote server.
- v Verbose mode. Display all commands to and replys from the server.
- u Umail mode. This will cause status and connection messages to be formatted on the 25th line of the screen. This is useful if this is called from some other program that is using the first 24 lines of the screen for something else.

The command line arguments are positional. The argument in the first position, *server*, specifies the name or the address in internet dot notation of the system where the message is to be delivered. It can also be the name of any machine that provides SMTP service and can act as a forwarder on behalf of the local client.

The second argument, *filename*, specifies the name of the local file that contains the message to be sent. The message must already be formatted according to RFC822.

The third argument, *fromuser[@hostname]*, is used as the sender address on the envelope of the message. This is what is put on the "MAIL FROM: <>" command in the SMTP protocol. It has nothing to do with what is actually on the From: header line in the message.

An optional fourth argument, *myhostname*, is used to specify the name of the local host. This is used as an argument to the "HELO" command in the SMTP protocol. There is no default hostname. If no 4th argument is given, then no argument is attached to the HELO command.

The message found in *filename* is parsed to determine the list of recipients of the message as found on the "To:", "Cc:", and "Bcc:" header lines. The message is transferred using the SMTP protocol, listing each of the recipients on a "RCPT TO:<>" SMTP command. For multiple recipients, the message is transferred only once except in the case of Bcc: (blind carbon copy) recipients. In the case of a message containing Bcc: recipients, the message is first modified to exclude the header line containing the list of Bcc recipients. It is then transferred multiple times, once for each of the Bcc recipients and once for all other recipients. A Bcc: header line is inserted in each message destined for a Bcc recipient and contains the username of that Bcc recipient. This is so that the Bcc recipient knows why he/she received the message. But they will still not be able to see the other Bcc recipients.

The message is sent through a filter before it is delivered. If there is a line in the message that contains only a dot ".", this will be replaced with a line containing 2 dots. This is so that SMTP will not interpret this line as the end of message. All high order bits in each byte of the message are turned off. Some editors turn these bits on but they will be meaningless to the person that receives the message unless that person reads the message with the same editor that it was

composed with, which is unlikely. All control characters are removed from the message except for newline, tab, and backspace. Control-E and Control-X are also passed because the EPS application needs these characters.

The **-u** option is sort of a hack for umail. It is needed so that status information can be formatted on the 25th line so that it will not clobber the rest of the screen that is used by umail. If the environment variable **UMCOLORS** is set, it will designate the foreground and background colors to be used when displaying status information on the 25th line. The format is **UMCOLORS** *fg,bg* where *fg* and *bg* are integers specifying the color codes for foreground and background respectively. If **UMCOLORS** is not in the environment, then the colors will be 15 (white) and 4 (red).

A file **xfer.log** is used to log many of the SMTP transactions. This is used for debugging purposes.

The error codes returned by *smtp(l)* are found in umerr.h.

SEE ALSO

pop2(L), RFC821, RFC822

AUTHOR

Ron Broersma

NAME

pop2 – Retrieve messages from a server using the POP2 protocol

SYNOPSIS

pop2 [-d[*level*]] [-b[*file*]] [-f[*folder*]] [-c] [-s] [-u] [-v] *server user* [*password*] *mailbox*

DESCRIPTION

Pop2 is a program for MS-DOS systems that establishes a connection with a mail server and downloads electronic mail messages using the Post Office Protocol version 2 (POP2) as specified in RFC937. *Pop2* comes in a number of versions supporting various network environments available on the PC. For proper operation, you must use the *pop2* that is configured for your network environment. The network environments generally in use at the time of this writing are PC/IP (serial version using SLIP), PC/IP (ethernet version), FTP Software, Sun PC-NFS, and the KA9Q net.exe.

Options are:

- d [*level*] Print debugging information. A debug level can be specified for increased amounts of debug information. This must be a positive integer value. Level 1 is the default and will display the control packets and connection status. Debug levels greater than 2 will display the text of all messages received from the mail server.
- b [*file*] This option specifies the name of a backup file on the server. If this is specified, all messages that are deleted using the ACKD command in the POP2 protocol are appended to *file*. If *file* is not specified on the -b option, then the server will choose a reasonable default. This option can be used in a number of ways. If you are afraid of losing messages, this is a good way to keep a copy of messages on the server even after downloading so that they can be recovered in case of a failure. Another way this option can be used is to provide the capability to access your mail on the mail server, even after it has been downloaded. For example, if the mail server is a Unix system, you may wish to specify "mbox" as the backup filename. Then, you can access your mail with the standard mail reading tools available on the mail server (i.e. "mail", "msg", etc.).
- f [*folder*] This option selects the particular server mail folder to be downloaded. Normally, the messages are downloaded from a place on the mail server that holds all the incoming mail. On a Unix system this is a file called /usr/spool/mail/*user*. If you wish to download a different message file, then this option can be used. For example, if you wished to download a file called "mbox", you would specify -f mbox on the command line.
- c This option is used to check on the status of incoming mail. It is optimized for speed so that it can very quickly determine if there is incoming mail on the server. If the -c option is given, no *password* or *mailbox* arguments are required.
- s This option will cause *pop2* to use the ACKS acknowledgement instead of the default ACKD acknowledgement in response to a message being downloaded (ACKD and ACKS are commands in the POP2 protocol). ACKD tells the server that a message was downloaded properly and that the message can then be deleted off the server. ACKS does the same thing except that it tells the server to save the message instead of deleting it. This is useful for debugging where you want to download a mailbox repeatedly.
- v Verbose mode. Display all commands to and replies from the server.
- u Umail mode. This will cause status and connection messages to be formatted on the 25th line of the screen. This is useful if *pop2* is called from some other program that is using the first 24 lines of the screen for something else.

The command line arguments are positional. The argument in the first position, *server*, specifies the name or the address in internet dot notation of the mail server. The pop2 server must be running on the specified host. **Pop2** connects to this host to initiate the download.

The second argument, *user*, specifies the userid on the mail server for which the mail is to be downloaded.

Password is the password on the mail server for the user specified in *user*.

Mailbox is the name of a local file into which the downloaded mail is to be stored. If it doesn't exist, it is created. It has an associated index file which contains header summary information and pointers to the messages in *mailbox*. The index file is named *mailbox.idx*. This is why *mailbox* cannot have any dots in the filename (an MS-DOS limitation). If the index file doesn't exist, it is created.

At startup, **pop2** saves any existing *mailbox* into a file *mailbox.bak*. This is protection against disaster should something go wrong during the download. If there is an error with download, this backup file is restored on top of *mailbox*.

The **-u** option is sort of a hack for umail. It is needed so that status information can be formatted on the 25th line so that it will not clobber the rest of the screen that is used by umail. If the environment variable **UMCOLORS** is set, it will designate the foreground and background colors to be used when displaying status information on the 25th line. The format is **UMCOLORS** *fg,bg* where *fg* and *bg* are integers specifying the color codes for foreground and background respectively. If **UMCOLORS** is not in the environment, then the colors will be 15 (white) and 4 (red).

A file **xfer.log** is used to log many of the POP2 transactions. This is used for debugging purposes.

The error codes returned by **pop2** are found in **umerr.h**.

SEE ALSO

popd(L), **smtp(L)**, **RFC937**

AUTHOR

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NAME

umail - Mail program for microcomputers

SYNOPSIS

umail [-v] [file]

DESCRIPTION

umail is an electronic-mail-processing program for IBM-compatible PC's. It performs essentially all functions of the Unix *mail(1)* program, but takes advantage of the fast screen updating capability of the PC. Mail is received from, and sent to, a mini-computer called a "server," which is connected through networks to other mini-computers; such mail is available both to mini-computer users and to other micro-computer users.

The default mailbox file *mbox* is located in the mail directory specified in the configuration file *umailrc*. An alternate mail file can be read by including its name on the command line, or by using the Open command. The single command option 'v' sets the "verbose" mode, used primarily for debugging.

User Interface

umail has two display screens: the header display and the message display. Upon invocation, **umail** displays the header page, which consists of the following areas:

The upper two rows of the screen contain a list of the commands available; this part of the display can be suppressed by command or configuration attribute.

The next nineteen (twenty-one, when the list of commands is suppressed) rows are used for the display of the one-line header summary of each message in the mailbox. This summary includes the date, the sender of the message, and the subject of the message.

The bottom two rows of the screen consist of a command line (next to the bottom) and a status line (bottom), used for user input, messages, and diagnostics.

The current message is indicated by a highlighted header line, called the "cursor." On a color display this is normally a header with yellow characters on a magenta background. All other headers have white characters on a blue background. The current message can be changed by using the **up-arrow** and **down-arrow** keys on the keyboard, or with a properly-configured mouse. The display scrolls down or up as needed when the current message is at the top or bottom of the header page. In addition, the **PgUp** and **PgDn** keys display the previous/next page of headers. The **spacebar** may also be used for paging down through the headers. The **Home** and **End** keys display the first/last page of headers.

The character keys on the keyboard are used for invoking commands. Most commands in the list include one upper-case letter. When the key corresponding to that upper-case letter is pressed, the command is executed. For example, pressing the **t** key invokes the Type command, and pressing the **v** key invokes the saVe command. While letter commands are shown upper-case to distinguish them, either upper- or lower-case letters may be used. All other commands are invoked by pressing the key indicated for the command; e. g., '/' for Search.

When the Type, Back, Next, or (possibly) Search commands are invoked, the display switches to the message page. The text of the current message is displayed in the upper twenty-four lines of the screen, and its header summary is displayed on the 25th (status) line. Near the end of the 25th line, a "help" prompt is displayed; optionally, this area can show the percentage completion through the message of the bottom line on the screen. The message display can be scrolled or paged up or down, and the first and last pages of the message can be directly accessed, with the same keys as described above for the header display. Commands can also be invoked from the message page.

Commands:**Answer**

Answer (reply to) the current message. The editor specified in the configuration file is invoked, so that you may enter your reply. The (default) file *draft* is created, with headers "To:", "Subject:", "Cc:", and "Text:" included. The contents of the message being answered are copied into a file; its default name is *msg* in the current directory. This file can be read into the editor. If lower-case command **a** is used, the addressees on the "Cc:" line are taken from the "To:" and "Cc:" lines of the incoming message; use of upper-case command **A** suppresses them. Both message headers and message body can be meaningfully edited; the header line "Text:" and a single blank line must be left after the last header and before the message body. (See the **Message Headers** section below for additional information.) After completing the message, you will be asked if you wish to send it. You can send it now, later in this session, at the end of this session, or during some later session. (See **Expedite** and **Quit** commands.) If your mini-computer password has not already been entered this session, it is requested before the mail can be sent.

Back

Switch to the message page (if not already there), move the cursor back to the previous message, and display it.

Check

Check to determine whether there is any new mail, and report the answer.

Delete

Delete (unDelete) the current message, and move the cursor to the next message. Delete is a "toggle" command: It designates an undeleted message for deletion, and vice-versa. If the header page is currently being displayed, a lower-case 'd' will appear in (disappear from) the left-most column of the header summary when a message is designated deleted (undeleted). If the message page is currently being displayed, the current message will be designated deleted (undeleted), then the contents of the next message will be displayed. Messages are actually deleted when either the **Getmail** or **Quit** commands are invoked, and may be undeleted anytime prior to that.

Expedite

Send queued messages, whether prepared during this session or previous sessions. You are shown each message and asked whether or not to send it (or all remaining messages), edit it, delete it, etc.

Forward

Forward the current message to one or more users. You will be prompted for the addressees, and they will be included in the *draft* file along with the contents of the current message. Thereafter, it behaves similar to the **Answer** command.

Getmail

Update and close the current mailbox, then get any new mail from the user's mailbox on the mailhome machine, and append it to the default mailbox. The number of new messages is displayed on the status line, and then the default mailbox is opened with the new messages added. (When the mailhome machine is suitably configured and you have new mail present, any new broadcast messages from command *msgs(1)* are also downloaded.)

Headers

Switch to the header page (if not already there).

Mark

Mark (unMark) the current message, and move the cursor to the next message. Mark is a "toggle" command: It marks an unmarked message, and vice-versa. Marked messages

are indicated by a special highlight. A set of messages which have been marked can be addressed with the Print and saVe commands.

Next

Switch to the message page (if not already there), move the cursor forward to the next message, and display it.

Open

Open a new mailbox. You will be prompted for the name of the new mailbox to be viewed. To return to the previous mailbox, use the eXit or Quit command. As with the saVe command, the mailbox is assumed to be in the **maildir:** directory unless a complete path name is given. The prompt shows the assumed path for the file name to be entered; it may be edited as desired.

Print

Invoke the program command defined by the **printer:** attribute, passing one or more messages by means of a temporary file. The program defined must be present on the search path. The effect of the default attribute line is to spool the current message (or all Marked messages) off to the printer, using the DOS *print* command. You are asked if you want to print just the current message or, if any messages are marked, all marked messages.

Quit

Update the current mailbox (i.e., remove all deleted messages, and update the status of all remaining messages). Expedite any queued outgoing messages, and return to the previous mailbox. If there was no previous mailbox, return to the DOS operating system.

Send

Create a new message for sending. You will be prompted for the primary addressees (To:), the subject of the message (Subject:), and the secondary addressees (Cc:), and this information will be included in the *draft* file. The editor will then be invoked for creating the message. Thereafter, it behaves similar to the Answer command.

Type

Switch to the message page (if not already there), and display the contents of the current message. Using upper-case **T** instead of lower-case **t** displays all the header lines of the message instead of just those given by the **fields:** attribute.

saVe

Save the current message (or all Marked messages) in a mailbox; you will be prompted for its name, which may **not** include a period '.' or an extension. If the mailbox already exists, the message (or messages) will be appended to it. Otherwise, a new file will be created. By default, messages are saved in the **maildir:** directory. The prompt shows the assumed path for the file name to be entered; it may be edited as desired. For a list of marked messages, you will be asked if you wish also to have them Deleted, after they have been saVed.

eXit

Return to the previous mailbox (or, if none, to DOS) without updating the current mailbox. The Expedite command is not invoked, messages marked deleted are **not** deleted, and the mailbox remains in the same state as when it was originally opened, with the addition of any downloaded messages.

!command<ENTER>

Invoke the external DOS command given. *umail* is temporarily suspended while the command executes. This can be useful for looking outside of the *umail* environment without actually having to leave it. The most common uses of this command are to get a directory listing or to identify an addressee.

To invoke more than one DOS command, you can temporarily exit *umail* by using the '?' immediately followed by <ENTER>; i.e., a null command. You can then invoke a sequence of DOS commands (but NOT *umail* a second time). To return to *umail*, enter "exit<ENTER>," followed by any key.

?

Request help. Answer the prompt to obtain help for a command.

F1

Request help. Answer the prompt to obtain help for a command.

/string<ENTER>

Search the current message for the first instance of "string." If "string" is found, switch to the message page (if not already there), and display the contents of the message with the line containing "string" at the top of the screen. Enter a period '.' to continue the search without re-entering the string. The string can contain "wild-card" characters.

Continue the previous search without repeating the string.

Special Keys

The following keys have special meaning to *umail*:

a	Answer the current message with Cc's included
A	Answer the current message with no Cc's included
b	Backup and display the previous message
c	Check for new mail
d	Delete (unDelete) the current message (a toggle)
e	Expedite (i.e., post) queued messages selectively
f	Forward the current message to other users
g	Get new mail from the <i>mailhome</i> machine
h	Display the Header summary page
m	Mark (unMark) the current message (a toggle)
n	Move forward and display the Next message
o	Open a different mailbox
p	Spool message(s) off to the Printer (default)
q	Quit; update mailbox & Expedite any queued mail
s	Compose a new message for Sending
t	Type (display) the current message
T	Type (display) the current message with all message headers
v	saVe message(s) to a file
x	eXit; don't update mailbox & don't Expedite mail
?command<ENTER>	Execute DOS "command"
?	Get help about a command
F1	Get help about a command
/string<ENTER>	Find "string" within current message
	Continue '?' search without repeating "string"
Down-Arrow	Down 1 line; scroll if needed (both displays)
Up-Arrow	Up 1 line; scroll if needed (both displays)
Spacebar	Display next page
PgUp	Display previous page
PgDn	Display next page
Home	Display first page
End	Display last page
ESC	Abort the current command

Alt-L	Redraw display
Alt-R	Redraw display
Alt-F1	SUPPRESS (Display) list of commands on Header page (a toggle)
Alt-F10	Exit from umail immediately!

The ESC key can be pressed whenever you wish to abort the current command. For example, if you've just Answered a message and suddenly decide that you don't really want to answer it, just hit the ESC key when the *umail* send-message prompt appears.

Email Network Access

When mail is received from or sent to a network, the individual receiving or sending the mail must be identified. This is accomplished by means of a computer user name and password; currently, these are the ones used for direct access to the NOSC GPCC UNIX mini-computers. This implies that all micro-mail users must also be valid mini-computer users, and must identify themselves when getting and sending mail. The computer user-id is provided in the configuration file; however, to preserve the security of the mail system, the password must be supplied manually. The need for this is minimized in *umail*, by requiring it only once for each session, the first time mail is either received or sent.

File Directories

All mailbox files are located in the mail directory specified in the configuration file, unless individually specified otherwise. Other, non-mail files are located in the directory from which *umail* was accessed, unless a full path name is given.

Message Headers

Electronic messages are divided into two parts, the headers and the body. The headers consist of specially-designated lines which give addressees, date, subject, etc., while the body consists of everything else in the message. The first header, the "From" line, begins the message and the header portion. The headers continue until the first blank line occurs; all of the message following this first blank line is the body.

For incoming mail, it is possible to control which headers are displayed. The default set consists of "To," "Cc," "Bcc," "Date," "Subject," "From," and "X-Blind-Copy." This set can be modified with the **fields:** attribute in the configuration file.

For outgoing mail, it is possible to edit the contents of some of the header lines to change addressees, subject, etc. This must be done carefully, and should not be attempted without some information about valid line formats. This information can be obtained from the CRC consultant. In particular, it is important to know that header lines can be extended beyond a single line by the use of continuation lines. A continuation line follows its header line or another continuation line, and must begin with a space or tab character, followed by the additional text. *umail* inserts a pseudo-header line "Text:" just prior to the blank line which separates the headers from the body of a message. This line must not be changed or deleted; any additional header lines must be inserted before it.

In addition to the address lines provided by *umail*, the "Bcc:" line may be inserted by the user to send "blind" copies of the message; it should be inserted immediately after the "Cc:" line. Such copies are indicated individually by the line "X-Blind-Copy" in the blind-copy recipient's message, and to no other recipients, and must be sent individually by the system.

Text Editing

When outgoing messages are composed for mailing, they are prepared using the particular text editor specified in the configuration file (or WordStar, the default). Many such text editors use non-ASCII characters to control formatting of the text. The user should be aware that the mail system uses only ASCII characters for communication, and all non-ASCII characters, as well as most ASCII control characters, are modified or stripped out during transmission. This will not change the textual content of the message, but may change its format significantly. Such features as underlining, emboldening, centering, and indentation may be lost from the message before it is delivered. Thus it is best not to include special formatting when composing messages.

umail ends the initial version of an outgoing message with a control-Z character, as an aid for some PC editors; this can be suppressed with the **noeof:** attribute, or deleted when the file is being edited.

In order to control the right margin of text, some PC editors do not use the standard character to indicate the end of each line. This will cause problems when the recipient attempts to read the message. WordPerfect and Word are known to have this problem. Contact the CRC consultant for information on how to resolve it.

Micro-Computer Set Up

An installation program, *uminst (L)*, is available to set up the user's micro-computer and to set the necessary parameters in the configuration file. Sophisticated users may want to make modifications later, but, by simply running the installation program, a user can create a convenient and workable mail system.

A directory must be named and created for holding mailboxes and related files; the four executable programs, the configuration file, and possibly editor file(s) must be installed in a path directory; a driver file *slipdev.sys* must be installed and the *config.sys* and *autoexec.bat* files modified accordingly.

The path variable in the *autoexec.bat* file must be carefully constructed. In particular, use of the forward slash '/' can cause problems when starting programs from within other programs, which occurs with some commands in *umail*. For this reason, only back slashes '\' should be used in the definition of the path variable.

Finally, if the micro-computer is connected to a T-box, some of the T-box parameters must be set. These are COMMAND (BREAK), PARITY (NONE), STOPS (1), and LOCATION. The correct settings are given in parentheses, except for LOCATION; it is set dynamically from information in the configuration file. The installation program checks and sets these parameters for the user.

The Configuration File

The configuration file *umailrc* is read by *umail* every time it executes. It is used to identify the individual user to the mail system and to permit each user to select among the various functional options, or attributes, available. It allows you to set up your own alias lists, define different colors for the screen, different keys for cursor movements, etc.

The file consists of a number of lines of text. Each line must begin with the name of an attribute, one or more spaces or tabs to indicate a continuation line, or the sharp character '#' to indicate a comment line.

On an attribute line, the name of the attribute must be followed immediately by a colon ':'; parameter value(s) (if any) follow the colon, separated from it by zero or more spaces or tabs. The attribute names may be in either upper or lower case or both. The attribute line can be extended with continuation line(s) immediately following it; such continuation lines must begin

with one or more spaces or tabs. Comments can be included following the colon on lines for attributes which do not take arguments; they should not be included on other attribute lines, since some take an indefinite number of arguments.

For example, a line to specify your choice of editors would be:

editor: *editor_name*

This sets the name of the editor to *editor_name*.

In the following, when the words *fore* or *back* occur, a color is expected. *fore* is the color to make the foreground, and *back* is the background color. The valid colors are any one of the following strings: *black*, *blue*, *green*, *cyan*, *red*, *magenta*, *brown*, *white*, *gray*, *lblue*, *lgreen*, *lred*, *lmagenta*, *yellow*, *iwhite*. For monochrome displays, a subset of these colors is used: *black*, *white*, *iwhite*. In both cases, the installation program selects the appropriate standard set for the display.

When a list of keys is required, e.g., "cup: k1, k2, ..., kn," control characters can be entered as a caret or up arrow '^' immediately followed by the upper-case character. For example: "cup: ^E, ^K." Two-character sequences can also be entered. For example, to expand the **End** key set to be more like WordStar use "end: ^Q^C, ^Qe, ^QC."

alias: *alias user1 user2 ... usern*

Create the alias *alias* to be used in place of the list of users that follows it. Aliases can include other aliases as well; i.e., aliases may be nested.

autoget:

Get any new mail from the mail server periodically, based on the **mailcheck:** *interval*.

autosend:

Send any queued messages periodically, based on the **mailcheck:** *interval*.

background: *color*

Set the overall background color to *color*.

border: *color*

Set the overscan color. This is the color of the border just outside the text area on the screen. Does nothing on the EGA.

ccommand: *fore, back*

Set the colors for the command line. On the header page, this is the second line from the bottom of the screen.

ccurmsg: *fore, back*

Set the colors for the current message indicator (highlight). This is also known as the "cursor."

edown: *k1, k2, ..., kn*

Define additional keys to move the cursor down.

cheader: *fore, back*

Set colors to use for normal header summary lines. Usually set to *iwhite*, *blue*.

chighlight: *fore, back*

Set colors to use to indicate marked messages.

emenu: *fore, back*

Set colors of the two-line list of commands on the header page.

cstatus: *fore, back*

Set colors of the status line. The status line is the bottom line on the screen.

cup: *k1, k2, ..., kn*

Define additional keys to move the cursor up.

curmsg: *file_name*

When a message is answered, store a copy of the message in file *file_name*. The default name is "msg."

draft: *file_name*

When a message is being created (with the Answer, Forward, or Send commands), invoke the editor with *file_name* on the command line. The default name is "draft."

editor: *editor_name*

Use editor *editor_name* for creating messages. (The default is "ws.") The name given must be the name of your editor **command**, which is not necessarily the same as the manufacturer's name of the editor. The editor must be present on the search path.

end: *k1, k2, ..., kn*

Define additional keys for moving to the last page of a message or headers.

fields: *field1, field2, ..., fieldn*

Display only the header fields listed when a message is being displayed. The fields named after the colon will be displayed if they are present in the header of the message. The defaults are "To," "From," "Date," "Subject," "Cc," "Bcc," and "X-Blind-Copy."

home: *k1, k2, ..., kn*

Define additional keys to display the first page of a message or headers.

link: *tbox comport,location,call baud_rate*

This attribute provides the information necessary for communication with the server.

Currently, the parameters should be set for CASTOR in San Diego as follows:

link: tbox com1,7,c90 9600

and for HUMU in Hawaii:

link: tbox com1,12,120 9600

The parameter *comport*, which may be "com1" or "com2," is optional; the default port is "com1." Refer to the **Micro-Computer Set Up** section for further information about T-box settings.

This line should be removed for communication over an ethernet.

machname: *name*

Define a name for your PC (originally intended for the Ethernet where machine names make sense). The default is "< user-id ..-PC >"

mailcheck: *interval*

Call the mail server to find out if there is any new mail after *interval* minutes of idle time. This attribute is also used as the interval for automatic getting and sending of mail. The minimum value of *interval* is 15 (minutes).

maildir: *dir_name*

Put all *umail* mailbox files in directory *dir_name*. Whenever *umail* has to create a mailbox file, it will be created in this directory. It is recommended that you include a drive specifier as well as a path name, e.g., "c:\mail." The default is "\mail."

mailhome: *machine_name*

Define the mailhome machine name (e.g., cod).

memory:

Display the maximum amount of "malloc'able" memory in the lower right-hand corner of the screen. This is a debug attribute.

nobackup:

Suppress backup of default mailbox on entry.

noblink:

Suppress display blinking when certain colors are used for background colors. If this attribute is *not* enabled, then the following colors will blink when used as a background color: *gray, lblue, lgreen, lcyan, lred, lmagenta*.

noeof:

Suppress the (default) '^Z (EOF) inserted by *umail* at the end of the initial draft outgoing message file (needed with certain editors).

nomenu:

Suppress the (default) two-line list of commands on the header page.

nowait:

Speed up the screen display; however, with some color displays, "snow" will temporarily appear on the screen.

pagedown: *k1, k2, ..., kn*

Define additional keys to page down through the message or headers.

pageup: *k1, k2, ..., kn*

Define additional keys to page up through the message or headers.

percent:

Display the relative position of the bottom screen line in the currently-displayed message, expressed as a percentage of the total, in the lower right corner of the message page, instead of the "Help: ???" prompt.

printer: *prog_name /arguments/ ^CIS /arguments/*

(NOTE: This section applies to umail Versions 1.01 and higher.) In this line, *prog_name* is the name of any program existing on your PC which you want activated by the Print command. "*^CIS*" is required as shown, and */arguments/* indicate that any arguments (or options) can be placed where shown. When *prog_name* is invoked by the Print command, any arguments listed are passed to it, and the name of a file which contains the message(s) to be printed is substituted for "*^CIS*".

The standard **printer:** attribute line is:

printer: print *^CIS*

This invokes the DOS print command to print the file containing the selected message(s).

record: *file_name*

Record (save) copies of messages sent, in file *file_name*. This file can be examined with *umail* just like any other mailbox. As each message is sent, you will be asked whether or not to save a copy of it.

sendtime: *send_preference*

Give preference for outgoing-message prompt-default. The prompt-default choices are to send immediately after editing each message "(s)" (default) or to send later "(l)"; the corresponding values for *send_preference* are "send" and "later."

serverbak: *file_name*

Save downloaded mail on the mailhome machine. This attribute provides a user with a means of guarding against lost mail during the downloading process; setting it causes all downloaded mail to be appended to an auxiliary file on the mailhome mini-computer, thus providing a backup for mail lost in transit to, or after arriving at, the micro-computer.

The optional parameter *file_name* may have one of three forms: First, it can be *mbox* or any other file name, in which case the mail will be appended to that file in the user's home directory; i.e., *~ user/file*. Second, if *file_name* is a full path name, then that file will be used. Third, if *file_name* is not specified, then the default file */usr/spool/mail/user.bak* will be used. The "bak" in the name of files of this latter type is changed nightly to a 3-letter abbreviation of that day of the week; the files themselves are removed the same day of the following week.

startcheck:

Check for new mail when *umail* is first invoked.

user: user-id

Define your login name.

verbose:

Set the "verbose" mode. This attribute has the same effect as the 'v' command-line option. It is intended for use when intensive, repeated debugging is contemplated, and should not otherwise be used.

FILES

umailrc	the configuration file
umail.exe	the micro mail program
uminst.exe	the installation program
sltbox.exe	the communications program
smtp.exe	the sending program
pop2.exe	the getting program
\mail\mbox	mailbox file (default)
\mail\draft	contains outgoing mail draft (default)
msg	contains message being answered (default)

SEE ALSO

mail (1) msg (L) pop2 (L) sltbox (L) smtp (L) uminst (L)

VERSION

1.01

AUTHOR

Gary Gilbreath

NAME

uminst - micro-mail install program

SYNOPSIS

uminst

DESCRIPTION

uminst installs the micro-mail system from the source diskette to your IBM PC and individually configures the system and your PC to make micro-mail work correctly for you. This is accomplished by asking a series of questions. In most cases if you are unsure of any answer, you should select the "default" answers given.

Before Running UMINST

Prior to running the installation program you should know the following things:

Your PC login drive (e.g., c:)

Your user-id on your mailhome minicomputer (e.g., smith)

The name of your mailhome minicomputer (e.g., cod)

The command you use to invoke the editor you want to use with micro-mail (e.g., ws, wp, ee).

The name of the directory you have selected for the micro-mail programs (e.g., c:\bin)

The name of the directory you have selected for your PC mailbox (e.g., c:\mail)

What UMINST Does

As the installation proceeds the program *uminst*:

Creates any directories that are missing and required.

Checks t-box settings changes them if they are set to prevent micro-mail from working (You will be notified that there is a problem).

Creates the micro-mail configuration file, *umailrc*.

Copies micro-mail system files to your PC.

Copies *slipdev.sys* device driver to your pc

Modifies *config.sys* to add the *slipdev.sys* device.

Updates your *autoexec.bat* file to ensure that micro-mail takes as little computer memory as possible.

Adds micro-mail program path to your computer *PATH* variable if it does not exist to micro-mail will work properly.

Checks to see if the editor name has been properly specified.

As a part of this process all files that are changed by *uminst*, such as, *autoexec.bat* and *config.sys* are backed up prior to actually changing them. You should review those two files if any problems result after installing micro-mail.

Once installation is complete you must reboot. Simply sending yourself a message and then *getting* it is the best way to be sure the micro-mail system is working.

Neither the installation program nor the documentation files are copied to your PC by the *uminst* program.

FILES

umailrc	umail configuration file
umail.exe	the micro mail program
uminst.exe	the installation program
autoexec.bat	DOS bootup batch file
config.sys	DOS device configuration file

SEE ALSO

umail(1), *slipd(1)*, *sltbox(1)*, *popd(1)*

VERSION

1.19

AUTHORS

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END

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